

SITE ACCESS AND IMPACT ANALYSIS - PLANNED UNIT DEVELOPMENT APPLICATION FOR 625 RHODE ISLAND AVENUE RESIDENTIAL DEVELOPMENT, NORTHWEST, WASHINGTON, D.C.

Prepared for:

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March 19, 2009

ZONING COMMISSION
District of Columbia

CASE NO. 09-05
EXHIBIT NO. 6

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1.0 INTRODUCTION

1.1 Project Background

The United House of Prayer for All People (The Church/Applicant) owns a number of lots within Square 442, located in the Shaw-Howard University area of Northwest, Washington, D.C. The current application pertains to Lots 115 - 119 (referred to collectively as the subject property), which is bounded by Rhode Island Avenue to the south and a north-south alleyway section to the west, between 6th and 7th Streets, NW. The property is zoned R-4 (Row Dwellings) and is currently improved with four (4) row dwellings and a surface parking lot of approximately 35 spaces. The Church plans to submit a Planned Unit Development (PUD) application to re-zone the site to C-2-B (Medium Density Community Business Center) and develop sixteen (16) residential units in a 4-story residential building, supported by eleven (11) off-street parking spaces.

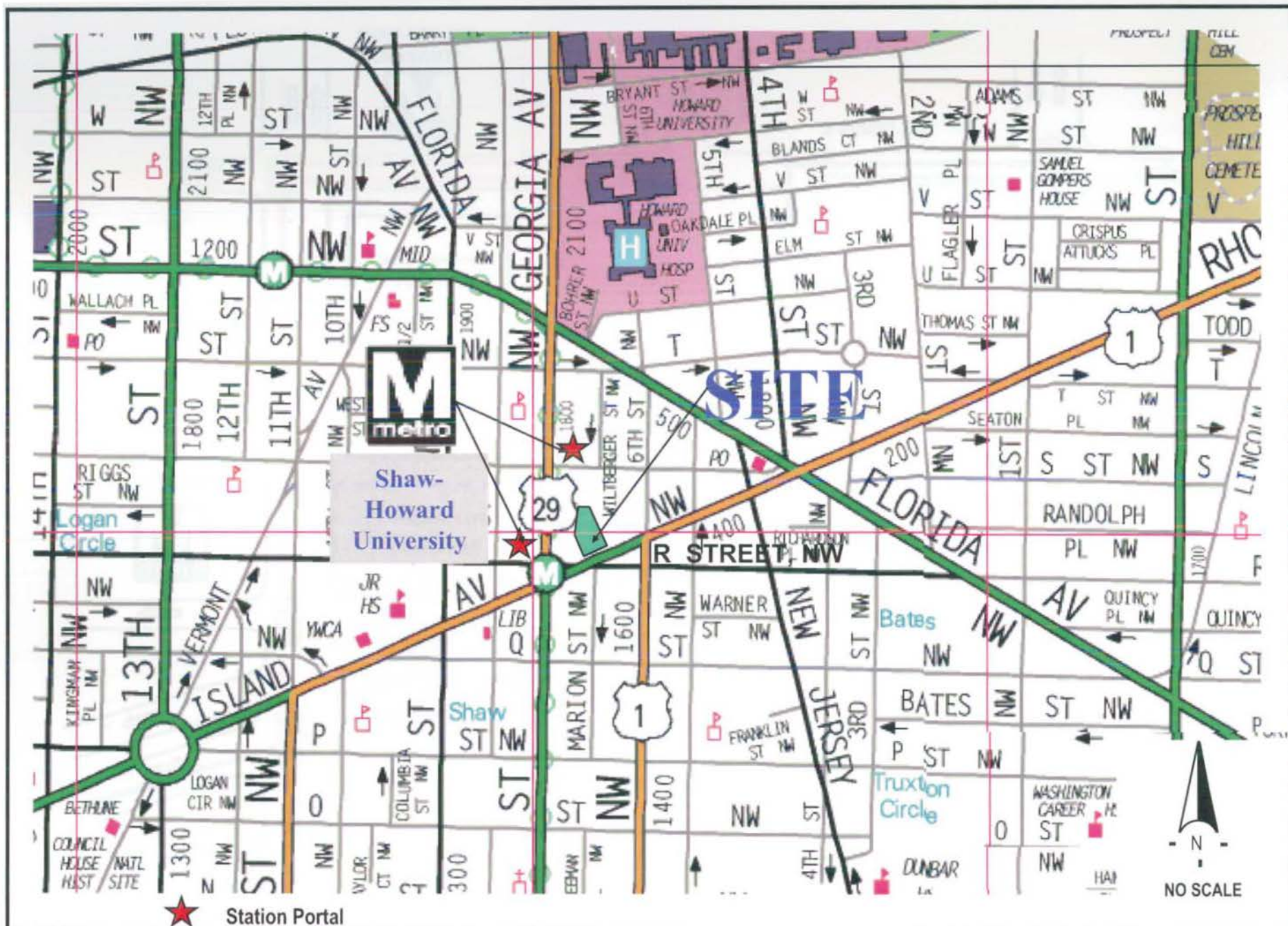
The property is less than a block from the Shaw-Howard University Metrorail Station and is in proximity to the Central Employment Area of the City. The study finds that the development will have very low vehicle trips generated (less than 5 vehicle trips during the weekday peak hours). Therefore, the essential focus of the study is to address the immediate site access and parking needs, in keeping with the City's policies regarding Transit Oriented Development, and reduced vehicle travel demand. Exhibit 1 shows the location of the site. Exhibit 2 illustrates the roadway and alleyway access patterns for the Square 442 and adjacent area.

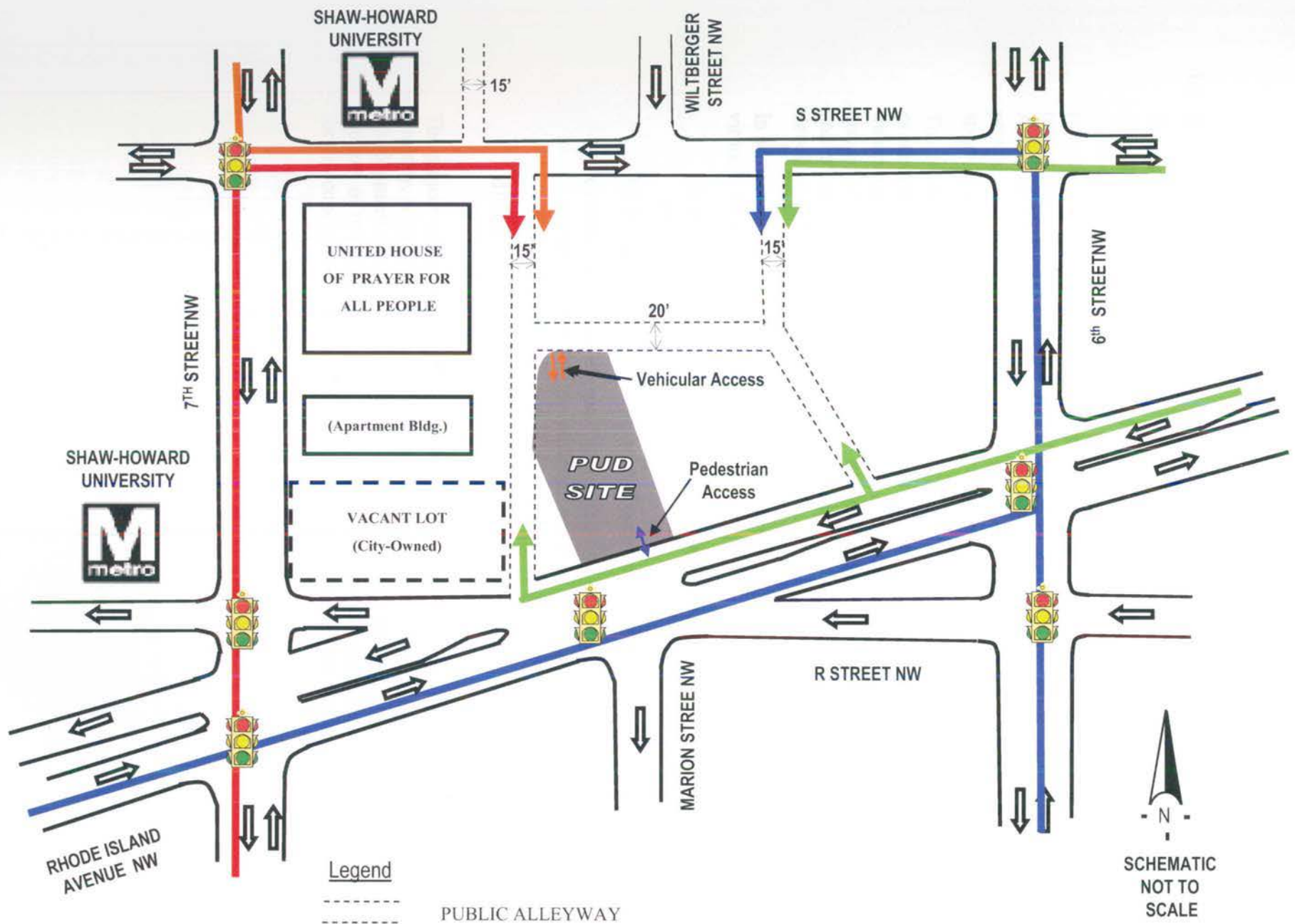
1.2 Study Purpose and Scope

This study was prepared as supporting documentation to the subject PUD Application. The purpose and key elements of the study are to evaluate and document the following:

- (a) Existing roadway and traffic conditions within the immediate vicinity of the subject site;
- (b) Future "background" traffic conditions, based on a generalized examination of planned developments within the study area, and potential annual growth in through traffic along the key study area roadways;
- (c) The traffic impact of the development proposal, considering existing and planned transportation facilities, site trip generation, access and on-site circulation; and
- (d) Any capacity, safety or operational constraints to the proposed development, as well as potential measures to mitigate such constraints, where appropriate.

It is important to note that the applicant had several meetings with the City's Department of Transportation (DDOT), Transportation Policy and Planning and the Office of Planning staffs. The methodology used in this analysis is in accordance with the District of Columbia Department of Transportation (DDOT) current guidelines for the assessment of the transportation impacts and access requirements associated with planned unit developments. The study area and other key parameters considered were also discussed with the referenced agency staff, and addresses their issues and concerns.





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Exhibit 2: Adjacent Roadway and Alleyway Access Patterns

**625 Rhode Island Avenue Planned Unit Development
Northwest, Washington, D.C.**

1.3 Report Organization and Summary

This report is organized into five (5) sections. The current section presents the background and context for the study. Section 2 evaluates existing roadway and traffic conditions. Section 3 addresses projected growth in traffic due to the impact of approved (and other potential) developments within the general study area, as well as potential growth in through traffic along the key study area roadways. Section 4 analyzes the traffic impact of the Applicant's development proposal, and assesses related site access, circulation and parking provisions. Section 5 summarizes the study findings and makes recommendations, where appropriate, to mitigate any potential transportation impacts identified.

The study finds that the proposed development would be adequately accommodated by the existing transportation system. This considers general accessibility by the various modes of transportation, particularly transit and access to the site by non-vehicular modes. The study area intersections currently operate at acceptable Levels of Service, during both the morning and afternoon peak hours and this situation would continue upon build-out of the proposed development.

In addition to the above factors, this study finds that the proposed development would have virtually no impact on the local area based upon the following:

- a) There would be no appreciable change in vehicular trip generation for the property.
- b) The levels of service for the study area intersections would not be affected.
- c) Pedestrian movements generated by the development would be easily accommodated on the adjacent roadway network, including pedestrian activity attracted to the adjacent Metro Station and Bus Route stops within the area.
- d) The site plan provides for bicycle storage facilities and easy access to bicycle routes along R Street and 7th Street.

The project will upgrade pedestrian sidewalk and related amenities along the frontage of the property, where necessary or identified as part of the public space permitting process. The development should therefore, not result in any public infrastructure cost or undertaking on the part of the City and would not adversely impact the adjacent neighborhood. The basis for this conclusion is provided in the remaining sections of the report.

2.0 EXISTING ROADWAY AND TRAFFIC CONDITIONS

2.1 Study Area Roadway Network

Square 442 is well served by a number of arterials and collector roadways, facilitating access to the Downtown/Central Employment Area and other sections of the City and beyond. These roadways include Rhode Island Avenue, Florida Avenue, 7th Street/Georgia Avenue and R Street, all of which are designated as arterials on the City's roadway network. Easy access is also provided via S Street, a 2-way local roadway abutting the square to the north. Exhibit 3 shows the functional classification for the area roadways.

Square 442 is also served by a network of alleyways facilitating access from the abutting streets. Exhibit 2 (on page 3) shows the site, the square and the access opportunities to the subject property. A study area roadway network consisting of five (5) intersections was identified for evaluation. This included input from the DDOT Transportation Policy & Planning Administration (TPPA) staff¹. These intersections are as follows:

- a) 7th Street at Rhode Island Avenue, NW (Signalized);
- b) 7th Street at R Street, NW (Signalized);
- c) 7th Street at S St, NW (Signalized);
- d) 6th Street at S St, NW (Signalized); and
- e) 6th Street at Rhode Island Avenue, NW (Signalized).

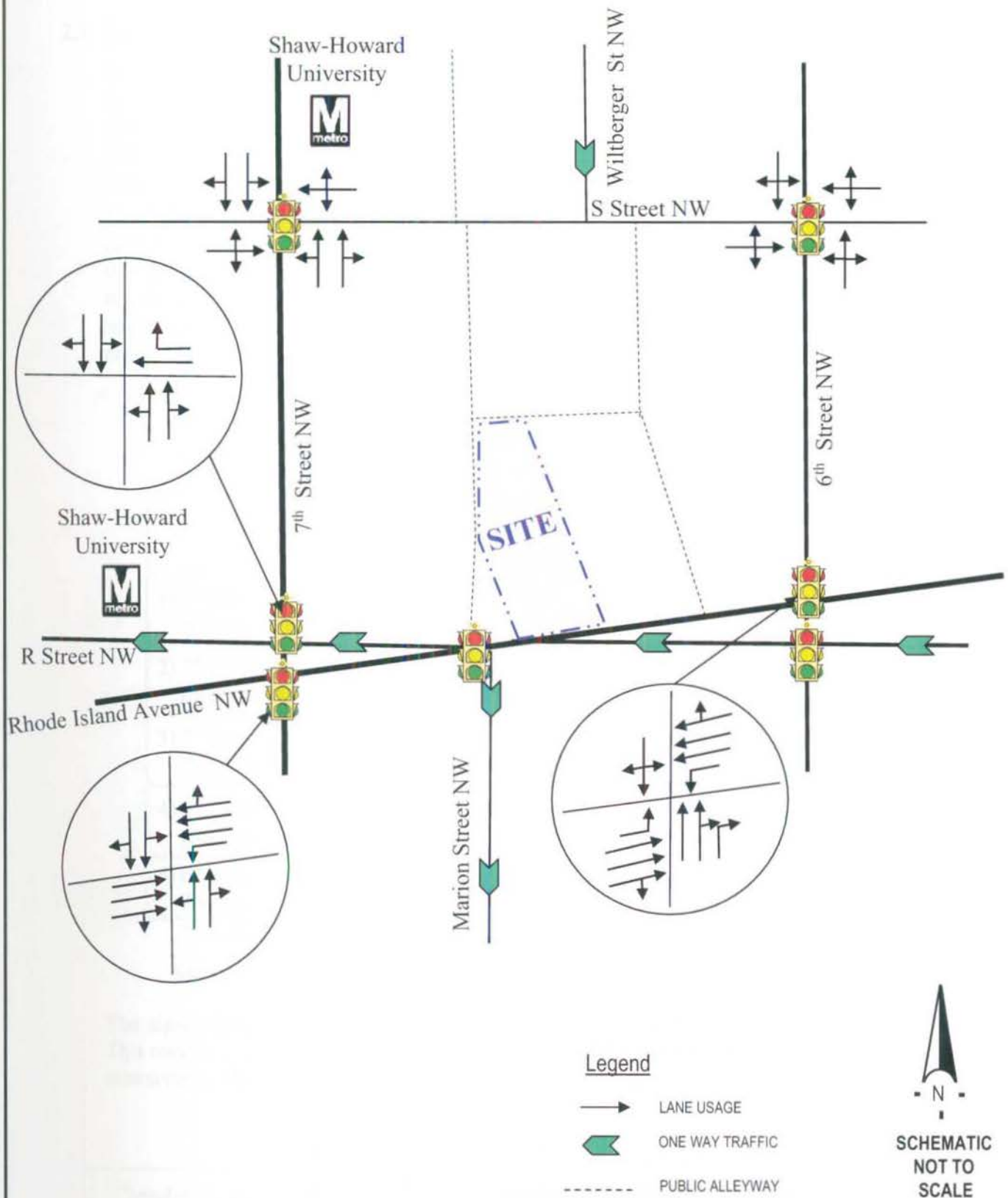
The general physical characteristics and service functions of the key study area roadways are summarized below:

- **Rhode Island Avenue NW:** Rhode Island Avenue is a 6-lane divided Principal Arterial on the City's transportation network. The divided roadway generally runs in the east-west direction in the vicinity of the site and serves approximately 28,900 vehicles per average weekday and is a primary commuter route into the Downtown/Central Employment Area from the Maryland suburbs. A raised median separates both approaches along the frontage of the site.
- **7th Street/Georgia Avenue NW:** This roadway is classified as a 4-lane north-south Principal Arterial within the area of the subject property. It serves approximately 14,600 vehicles per average weekday. An on-street bicycle lane runs in each direction along this roadway.
- **6th Street NW:** This roadway is a north-south Minor Arterial in the vicinity of the property, with 4-lanes to the south of Rhode Island Avenue and 2-lanes to the north. It serves approximately 4,300 vehicles per average weekday in the vicinity of the property.

In addition, it is noted that much of the parking within the general area is regulated under the City's Residential Permit Parking (RPP) program, which restricts parking to 2-hour limits between 7:00 AM and 8:30 PM, except for Wards 1 and 2 permit holders.

The site is served by a number of transit routes, including Routes 70, 71 and 79 along 7th Street/Georgia Avenue; G4 along Rhode Island Avenue; and 90, 92, 93 and X3 along Florida Avenue. The layout of the study area roadway network, as well as the lane configuration and traffic control devices provided at the adjacent intersections, are illustrated in Exhibit 4. It is important to note that sidewalks are provided along all roadways in the vicinity of the site and the signalized intersections are equipped with pedestrian countdown signals, which serve to enhance both pedestrian and vehicular flow and promote safety.

¹ Based upon the scoping and issues meeting held on 10/3/08.



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Exhibit 4: Existing Lane Configuration and Traffic Control

**625 Rhode Island Avenue Planned Unit Development
Northwest, Washington, D.C.**

2.2 Existing Vehicular Traffic Situation

In order to assess current conditions, field observations were made of the weekday traffic flow within the defined study area during the morning and afternoon peak periods. In addition, peak period turning movement counts were undertaken at the study area intersections during a typical weekday. Exhibit 5 shows the morning and afternoon peak hour volumes. The count summaries are included as Appendix A.

The peak hour traffic volumes were analyzed using the Highway Capacity Manual (HCM) capacity analysis procedures, in accordance with the DDOT requirements. The results show that the study area intersections currently operate at acceptable Levels of Service², during the morning and afternoon peak hours. Table 1 presents the summary of the capacity analysis results for the existing traffic situation. Detailed capacity analysis worksheets are presented in Appendix B.

TABLE 1
SUMMARY OF CAPACITY ANALYSIS RESULTS -
EXISTING VEHICULAR TRAFFIC SITUATION

Intersection	AM Peak Hour		PM Peak Hour	
	Level of Service	Avg. Delay (Sec/Veh)*	Level of Service	Avg. Delay (Sec/Veh)*
1) 7 th Street @ Rhode Island Avenue, NW (Signalized)	A	9.2	B	11.5
2) 7 th Street @ R Street, NW (Signalized)	B	11.4	B	14.3
3) 7 th Street @ S Street, NW (Signalized)	A	8.7	A	7.3
4) 6 th Street @ S Street, NW (Signalized)	B	11.2	B	14.4
5) 6 th Street @ Rhode Island Avenue, NW (Signalized)	C	32.3	C	21.8

* Secs/Veh. = Average Control Delay Seconds per Vehicle

Source: O. R. George & Associates

The signal phasing for the 7th Street/S Street intersection prioritizes flow along 7th Street. This results in some delay along S Street. However, this situation is not unusual for an urban intersection adjacent to a Metrorail Station.

² "Level of Service" is a qualitative measure describing operational conditions within a traffic stream or at an intersection, and reflects their perception by drivers and other roadway users. Principal considerations are factors such as speed and travel time, delay, and freedom of maneuver, traffic interruptions, comfort, convenience and safety. Current engineering practice defines six (6) Levels of Service (A-F), with "A" representing best operating conditions, and Level of Service "F" representing the worst conditions. Level of Service D is generally considered by the District of Columbia as the minimum acceptable conditions for planning and design purposes.

2.3 Existing Pedestrian and Bicycle Traffic Situation

As noted in Section 2.1, all abutting roadways in the local area are provided with sidewalks in keeping with the City's standards. Pedestrian volumes were counted as part of the intersection turning movement counts and at other times during the course of the study. Exhibit 6 shows typical pedestrian volumes within the impacted local area.

The volumes shown in Exhibit 6 are low to moderate, particularly considering the proximity a Metrorail Station. However, it is noteworthy that Shaw-Howard University station has daily boardings in the range of 3,000 to 3,500 persons and that the majority of these patrons are oriented to the north toward Howard University and the LeDroit Park community.

The service measure for pedestrians at signalized intersections is the average delay experienced by a pedestrian. Highway Capacity Manual (HCM) quotes "*Research indicates that the average delay of pedestrians at signalized intersection crossings is not constrained by capacity, even when pedestrian flow rates reach 5,000 pedestrians/hour*". Therefore, the delay is calculated based on the HCM equation using the Cycle Length of the signal and the effective green time available for pedestrians. Table 2 presents the summary of the capacity analysis results for the existing pedestrian traffic situation. All the pedestrians experience Levels of Service "C" or better.

TABLE 2
SUMMARY OF CAPACITY ANALYSIS RESULTS -
EXISTING PEDESTRIAN TRAFFIC SITUATION

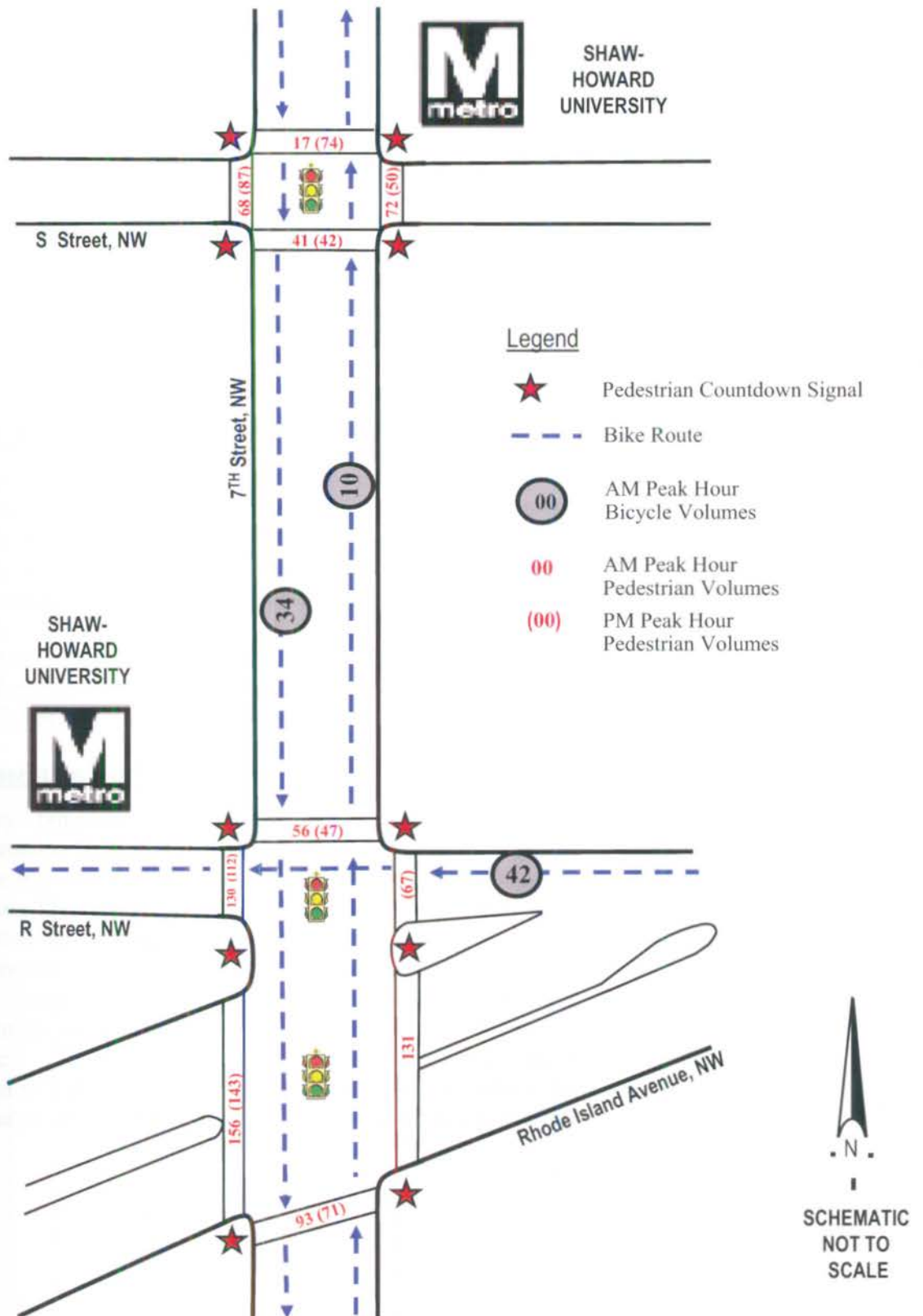
Intersection	Street Name	Type	Cycle Length (Secs.)	Pedestrian Green Time (Secs.)*	Average Pedestrian Delay **	Level of Service
1) 7th Street @ Rhode Island Avenue, NW	Rhode Island Avenue	Major	100	50	12.5	B
	7th Street	Minor	100	36	20.5	C
2) 7th Street @ R Street, NW	7th Street	Major	100	26	27.4	C
	R Street	Minor	100	48	13.5	B
3) 7th Street @ S Street, NW	7th Street	Major	100	67	5.4	A
	S Street	Minor	100	23	29.6	C

* All crosswalks are served by countdown pedestrian signals.

** Computed per HCM methodology.

Source: O. R. George & Associates

Square 442 is also well served with bicycle facilities along 7th Street (2-way) and with one-way routes along R and T Streets. Bicycle volumes range between 10 - 40 per hour. Typical bicycle volumes within the impacted local area are also shown on Exhibit 6. Based on a qualitative assessment, it can be seen that the issue of capacity or inadequate levels of service for bicycle users does not arise. The traffic signals in the area all operate with 100 second cycles, which works out to 36 cycles per hour. On average, between 1 and 2 bicycles would utilize the intersection during any cycle. Even allowing for some peaking, no operational or capacity constraints would be encountered.



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Exhibit 6: Existing Peak Hour Pedestrian Volumes

**625 Rhode Island Avenue Planned Unit Development
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3.0 FUTURE TRAFFIC SITUATION

3.1 Local Area Development Activity

The area in and around the square is undergoing a rapid transit oriented development. The largest planned development in the vicinity is the Broadcast Center One, which is located on north side of S Street between 7th Street and Wiltberger Street. This is a mixed use, transit oriented development with 180 residential units, 24,323 SF Retail and 103,083 SF Office space. A traffic study was submitted as part of the PUD application process for Broadcast Center One development. That study concluded that the proposed Broadcast Center One development will have a negligible effect on the area intersections. The trips generated by Broadcast Center One development and other approved developments in the vicinity are shown in Appendix C.

3.2 Proposed Development Plan

As discussed earlier, the subject development will consist of 16 residential units in a 4-story residential building and 11 off-street parking spaces. The property is situated approximately 500 Ft from the entrance to the Shaw-Howard University Metrorail Station, and in close proximity to Metrobus Transit stops on three routes serving the area (3 routes along 7th Street/Georgia Avenue, 1 route along Rhode Island Avenue, and 4 routes along Florida Avenue). The location and accessibility factors provide strong Transit Oriented Development characteristics, fully in keeping with the Transportation Element of the City's Comprehensive Plan. This in turn greatly reduces vehicle trip generation, as is discussed in Section 3.3 below.

3.3 Trip Generation and Site Access

The City typically requires that the trip rates recommended by the Institute of Transportation Engineers (ITE) be utilized in conducting traffic impact assessments. As such, the trip estimates for the proposed development were based on the current ITE Trip Generation Manual (7th Ed., 2003) trip rates for Mid-Rise Apartment Units. It is important to note that the ITE rates are for stand-alone suburban sites, which have little or no public transportation services or significant opportunities for weekday work trips via alternative modes. Accordingly, the rates were adjusted to reflect the location of the property with opportunities for use of transit facilities and travel by other modes (i.e., bicycle and walk trips, etc.) The trip rates and projected vehicle trips for the subject development are presented in Table 3. As can be seen, the projected vehicle trips are quite insignificant and should have virtually no impact on traffic within the local area.

TABLE 3
PROJECTED PEAK HOUR TRIP GENERATION –
625 RHODE ISLAND AVENUE RESIDENTIAL DEVELOPMENT

Trip Rates	AM Peak Hour			PM Peak Hour		
	In	Out	Total	In	Out	Total
Trips per Mid-Rise Apt. Unit [ITE Land Use Code 223]	0.09	0.21	0.30	0.23	0.16	0.39
Trip Generation						
• Trip/16 Mid-Rise Apt. Units (With 60% adjustment factor)	1	1	2	2	1	3

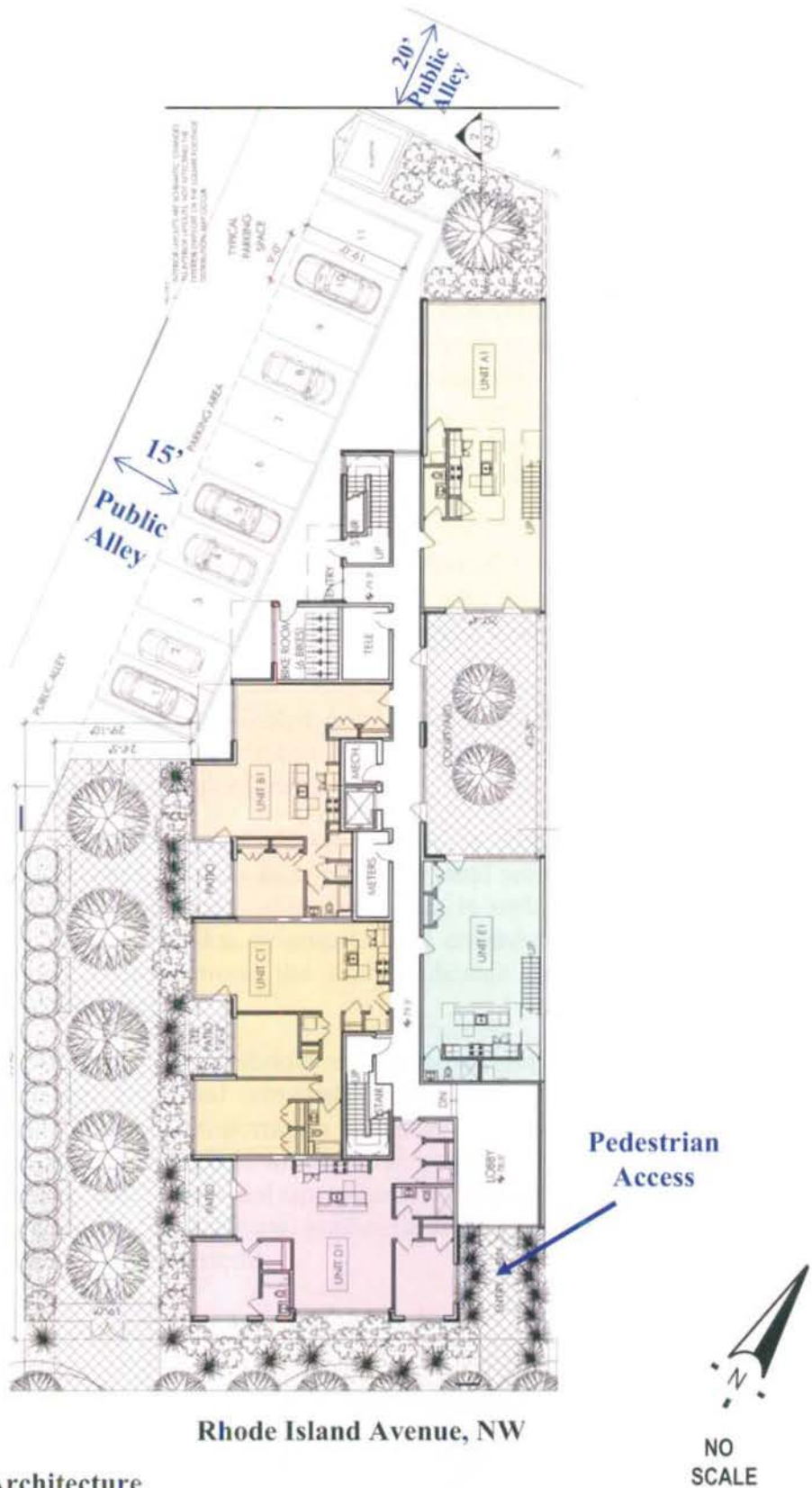
Source: ITE Trip Generation Manual (2003), and O. R. George & Associates.

It is again noted that, the site access would be quite favorable. Vehicles would access via the alleyways connecting the square to the abutting roadways. Pedestrian and bicycle access would be via the lobby entrance off Rhode Island Avenue to the extensive public sidewalk system, and to several recently upgraded bicycle routes within the area. As noted on the site plan, a bicycle storage room will be provided via the alley to the rear of the building.

3.4 Parking and Loading Evaluation

For completeness of the study, it is noted that the application proposes re-zoning of the subject property from R-4 to C-2-B (Medium Density Community Business Center) and the proposed parking satisfies the minimum requirements of the Zoning Regulations. [This is discussed further below.] In view of the size of the development, no off-street loading facilities are required. Loading access opportunities are provided off the adjacent alleyways, particularly off the 20-Ft wide alleyway abutting the north side of the development.

The Applicant's Site Plan Drawings (Exhibit 7), shows that the parking will be accessed exclusively off the alleyway system within Square 442. The plan also provides for a bicycle storage room located off the alleyway, with direct access into the building via a rear entrance.



Source: Suzane Reatig Architecture

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Exhibit 7: Site Development/Planned Access

**625 Rhode Island Avenue Planned Unit Development
Northwest, Washington, D.C.**

4.0 SUMMARY AND CONCLUSION

Based on the foregoing data, analyses and discussion, this study has shown that the proposed development would have extremely low vehicle trip generation and would therefore not create any adverse traffic impacts on the local neighborhoods. Principal findings supporting this conclusion are as follows:

- a) Existing levels of service within the area are quite acceptable (at Level of Service (LOS) C or better during the morning and afternoon peak hours). The 7th Street at S Street intersection (which is most significantly impacted by the site) achieves LOS A during both the morning and afternoon peak hours. *[Considering that there is some moderate level of unmet demand in terms of queuing at the intersection, this study concludes that levels of service are certainly at LOS C and above.]*
- b) The site is projected to generate less than five (5) vehicle trips during the weekday peak hours; and these trips would be well distributed via the alleyway system serving Square 442, and similarly dispersed along the major arterials and collectors serving the area.
- c) The proposal is for a transit oriented development, which takes advantage of its proximity to Metrorail and Metrobus service. Easy access is also provided for pedestrian and bicycle modes of travel.
- d) The site is well served by bicycle routes in both directions along 7th Street/Georgia Avenue, as well as in eastbound and westbound directions along Q and R Streets, respectively. The local area is well served with pedestrian facilities, including sidewalks, crosswalks, and countdown pedestrian signals at all intersections. Furthermore, the study indicates that pedestrian levels of service are quite acceptable.

As planned, the proposed development should not adversely impact any transportation-related amenities such as bus stops and crosswalks. The proposed site facilities provide features which can be considered transportation amenities. These include the improved sidewalks and the bicycle facilities, both of which are in keeping with the City's policies on enhancing pedestrian access and intermodal opportunities. The proposal would therefore satisfy the City's requirements for adequate public facilities, and would not place any burdens on the public transportation systems.

<<<<<:::~::~>>>>>

APPENDIX

A

Turning Movement Count Summaries

O. R. George & Associates, Inc.

10210 Greenbelt Road, Suite 310

Lanham, MD 20706-2218

Tel: (301) 794-7700 Fax: (301) 794-4400

File Name : 7th@RSt

Site Code : 05361907

Start Date : 5/8/08

Page No : 1

Counted by: ORGA - GM, MT
Board : D4-1907, D4-1576
City/County: Washington, DC
Weather : Warm, Sunny, Dry

Groups Printed- Passenger Vehicles - Light Trucks & Buses - Heavy Trucks

End Time	7th Street From North				7th Street From South				R Street From East				R Street From West				Int Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:45 AM	0	106	4	110	11	67	0	78	0	64	5	69	0	0	0	0	257
08:00 AM	0	114	5	119	12	46	0	58	0	81	13	94	0	0	0	0	271
Total	0	220	9	229	23	113	0	136	0	145	18	163	0	0	0	0	528
08:15 AM	0	113	5	118	8	61	0	69	0	100	6	106	0	0	0	0	293
08:30 AM	0	117	2	119	14	66	0	80	0	102	20	122	0	0	0	0	321
08:45 AM	0	141	1	142	9	66	0	75	0	99	12	111	0	0	0	0	328
09:00 AM	0	122	6	128	6	55	0	61	0	85	4	89	0	0	0	0	278
Total	0	493	14	507	37	248	0	285	0	386	42	428	0	0	0	0	1220
09:15 AM	0	132	7	139	5	64	0	69	0	84	19	103	0	0	0	0	311
09:30 AM	0	116	3	119	3	64	0	67	0	89	9	98	0	0	0	0	284
Total	0	248	10	258	8	128	0	136	0	173	28	201	0	0	0	0	595
04:15 PM	0	107	7	114	7	92	0	99	0	84	18	102	0	0	0	0	315
04:30 PM	2	116	7	125	11	84	0	95	0	73	10	83	0	0	0	0	303
04:45 PM	0	108	5	113	10	87	0	97	0	79	15	94	0	0	0	0	304
05:00 PM	0	118	10	128	11	96	0	107	0	122	7	129	0	0	0	0	364
Total	2	449	29	480	39	359	0	398	0	358	50	408	0	0	0	0	1286
05:15 PM	0	75	4	79	5	72	0	77	0	127	5	132	0	0	0	0	288
05:30 PM	0	130	2	132	18	105	0	123	0	135	6	141	0	0	0	0	396
05:45 PM	0	141	8	149	8	66	0	74	0	132	7	139	0	0	0	0	362
06:00 PM	0	149	4	153	11	97	0	108	0	111	9	120	0	0	0	0	381
Total	0	495	18	513	42	340	0	382	0	505	27	532	0	0	0	0	1427
Grand Total	2	1905	80	1987	149	1188	0	1337	0	1567	165	1732	0	0	0	0	5056
Approch %	0.1	95.9	4.0		11.1	88.9	0.0		0.0	90.5	9.5		0.0	0.0	0.0		
Total %	0.0	37.7	1.6	39.3	2.9	23.5	0.0	26.4	0.0	31.0	3.3	34.3	0.0	0.0	0.0	0.0	

A-1

O. R. George & Associates, Inc.

10210 Greenbelt Road, Suite 310

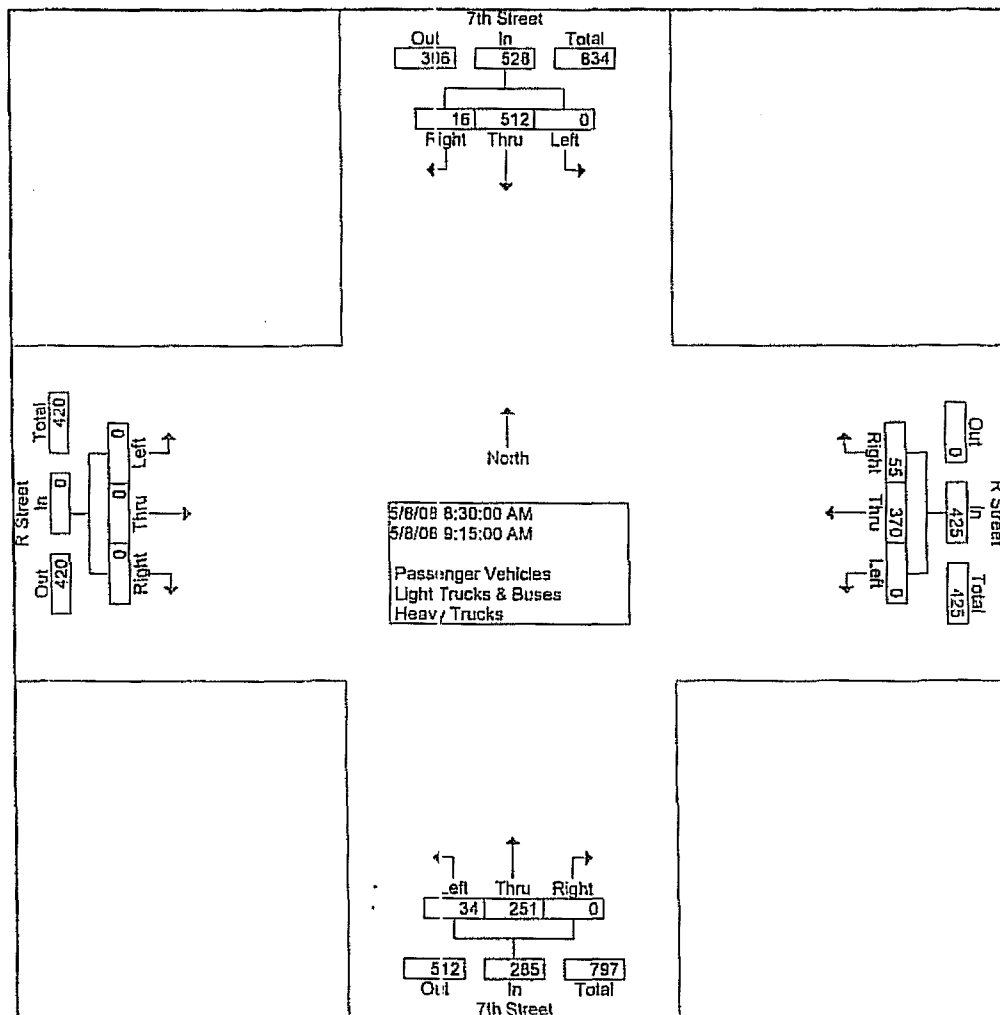
Lanham, MD 20706-2218

Tel: (301) 794-7700 Fax: (301) 794-4400

Counted by: ORGA - GM, MT
Board : D4-1907, D4-1576
City/County: Washington, DC
Weather : Warm, Sunny, Dry

File Name : 7th@RSt
Site Code : 05361907
Start Date : 5/8/08
Page No : 2

	7th Street From North				7th Street From South				R Street From East				R Street From West				
End Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 07:45 AM to 11:45 AM - Peak 1 of 1																	
Intersection 08:30 AM																	
Volume	0	512	16	528	34	251	0	285	0	370	55	425	0	0	0	0	1238
Percent	0.0	97.0	3.0		11.9	88.1	0.0		0.0	87.1	12.9		0.0	0.0	0.0		
08:45 Volume	0	141	1	142	9	66	0	75	0	99	12	111	0	0	0	0	328
Peak Factor																	0.944
High Int. 08:45 AM					08:30 AM				08:30 AM				7:30:00 AM				
Volume	0	141	1	142	14	66	0	80	0	102	20	122					
Peak Factor	0.930								0.891				0.871				



O. R. George & Associates, Inc.

10210 Greenbelt Road, Suite 310

Lanham, MD 20706-2218

Tel: (301) 794-7700 Fax (301) 794-4400

Counted by: ORGA

Board : D4-1907, D4-1576

City/County: Washington, DC

Weather : Warm, Sunnt, Dry

File Name : 7th@Sst

Site Code : 01361907

Start Date : 5/6/08

Page No : 1

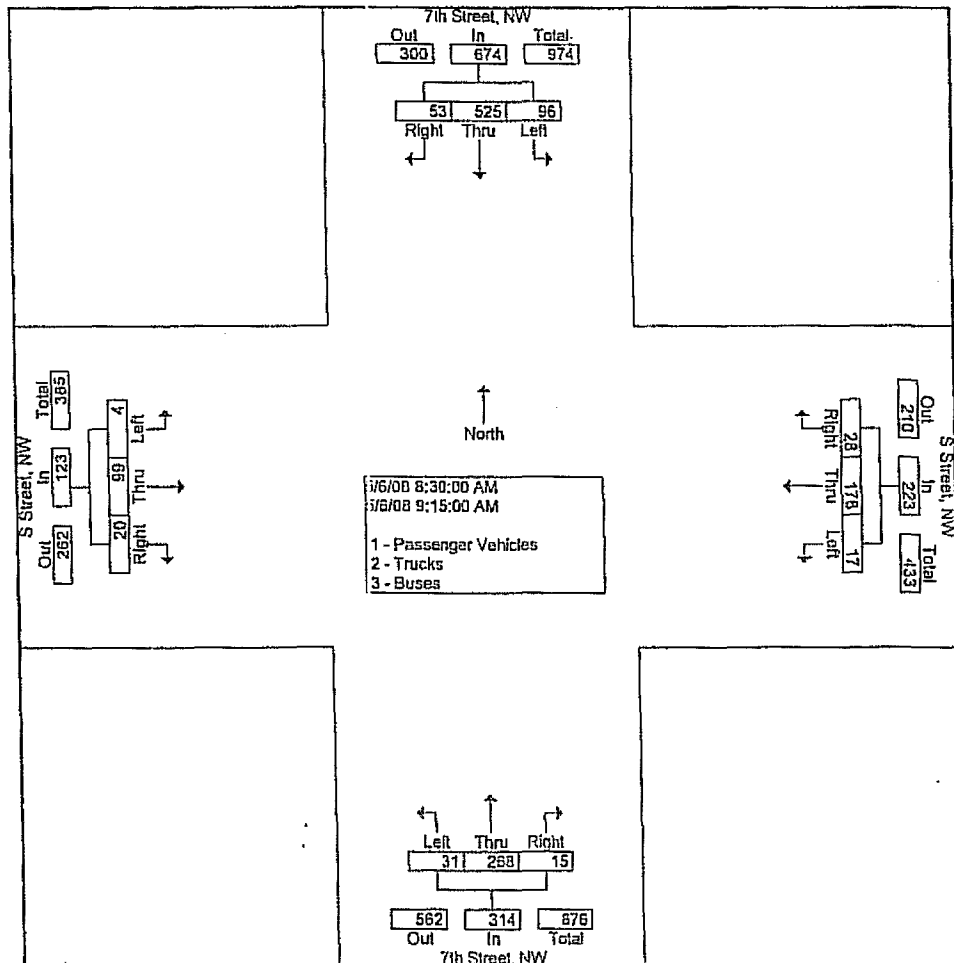
Groups Printed: 1 - Passenger Vehicles - 2 - Trucks - 3 - Buses

	7th Street, NW From North				S Street, NW From East				7th Street, NW From South				S Street, NW From West				Inl Total
End Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:45 AM	21	138	9	168	2	29	5	36	4	83	1	88	0	15	2	17	309
08:00 AM	24	129	10	163	3	45	8	56	12	66	3	81	1	23	1	25	325
Total	45	267	19	331	5	74	13	92	16	149	4	169	1	38	3	42	634
08:15 AM	27	138	15	180	5	42	10	57	1	16	9	26	0	0	0	0	263
08:30 AM	31	137	16	184	4	39	4	47	5	54	2	61	1	6	4	11	303
08:45 AM	30	134	6	170	2	39	11	52	8	75	3	86	1	24	9	34	342
09:00 AM	15	123	12	150	9	56	8	73	13	66	7	86	1	35	5	42	351
Total	103	532	49	684	20	176	33	229	27	211	21	259	3	66	18	87	1259
09:15 AM	20	131	19	170	2	44	5	51	5	73	3	81	1	33	2	36	338
09:30 AM	12	115	14	141	3	28	2	33	7	75	4	86	0	24	3	27	287
*** BREAK ***																	
Total	32	246	33	311	5	72	7	84	12	148	7	167	1	57	5	63	625
*** BREAK ***																	
04:15 PM	22	114	11	147	15	44	19	78	10	123	8	141	8	56	17	81	447
04:30 PM	5	118	10	133	2	29	11	42	3	98	6	107	2	33	8	43	325
04:45 PM	15	96	4	115	5	25	20	50	3	72	4	79	6	39	8	53	297
05:00 PM	14	97	12	123	4	37	19	60	7	101	7	115	2	41	7	50	348
Total	56	425	37	518	26	135	69	230	23	394	25	442	18	169	40	227	1417
05:15 PM	18	108	6	132	3	49	28	80	10	108	4	122	0	44	9	53	387
05:30 PM	22	121	10	153	1	31	10	42	7	88	4	99	1	51	15	67	361
05:45 PM	11	96	8	115	2	46	6	54	7	102	2	111	0	63	5	68	348
06:00 PM	8	77	5	90	0	34	22	56	3	101	2	106	2	31	6	39	291
Total	59	402	29	490	6	160	66	232	27	399	12	438	3	189	35	227	1387
Grand Total	295	1872	167	2334	62	617	188	867	105	1301	69	1475	26	519	101	646	5322
Approch %	12.6	80.2	7.2		7.2	71.2	21.7		7.1	88.2	4.7		4.0	80.3	15.6		
Total %	5.5	35.2	3.1	43.9	1.2	11.6	3.5	16.3	2.0	24.4	1.3	27.7	0.5	9.8	1.9	12.1	

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File Name : 7th@Sst
 Site Code : 01361907
 Start Date : 5/6/08
 Page No : 2

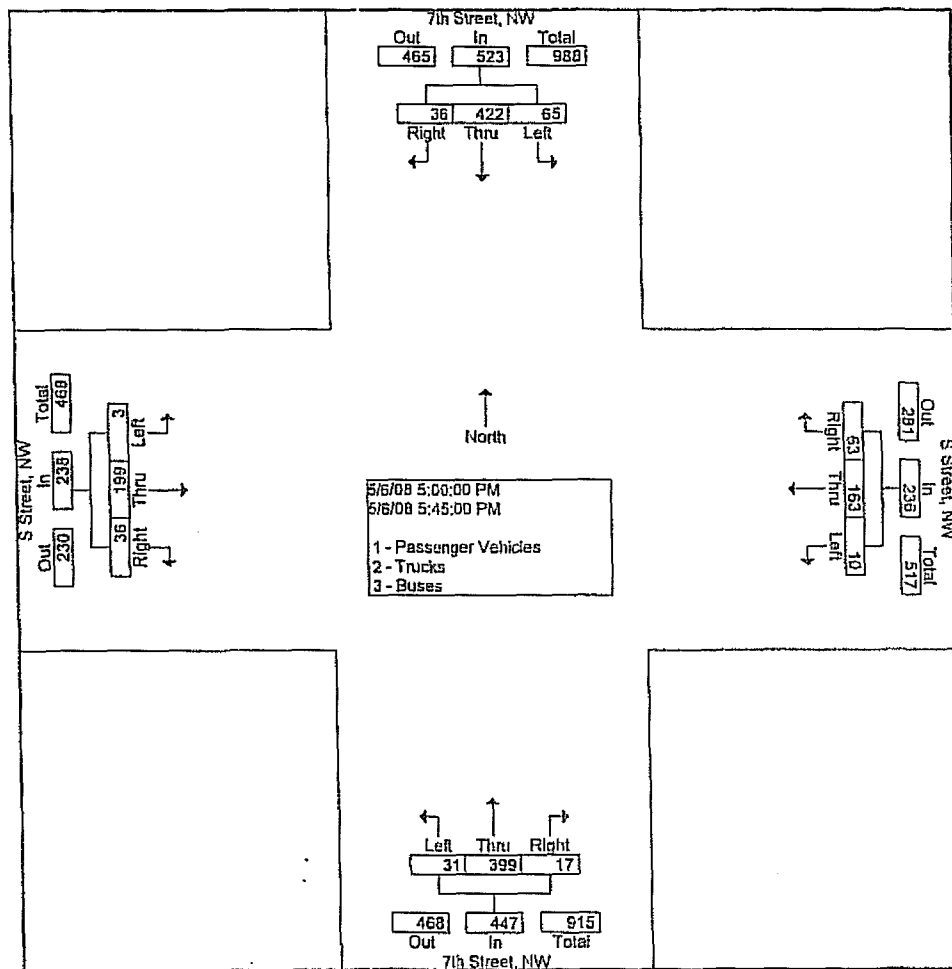
	7th Street, NW From North				S Street, NW From East				7th Street, NW From South				S Street, NW From West				
End Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 07:45 AM to 11:45 AM - Peak 1 of 1																	
Intersection 08:30 AM																	
Volume	96	525	53	674	17	178	28	223	31	268	15	314	4	99	20	123	1334
Percent	14.2	77.9	7.9		7.6	79.8	12.6		9.9	85.4	4.8		3.3	80.5	16.3		
09:00 Volume	15	123	12	150	9	56	8	73	13	66	7	86	1	36	5	42	351
Peak Factor																	0.950
High Int. 08:30 AM					09:00 AM				08:45 AM				09:00 AM				
Volume	31	137	16	184	9	56	8	73	8	75	3	86	1	36	5	42	
Peak Factor	0.916								0.764				0.913				0.732



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	7th Street, NW From North				S Street, NW From East				7th Street, NW From South				S Street, NW From West				
End Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int Total
Peak Hour From 12:00 PM to 06:00 PM - Peak 1 of 1																	
Intersection 05:30 PM																	
Volume	65	422	36	523	10	163	63	236	31	399	17	447	3	199	36	238	1444
Percent	12.4	80.7	6.9		4.2	69.1	26.7		6.9	89.3	3.8		1.3	83.6	15.1		
05:15 Volume	18	108	6	132	3	49	28	80	10	108	4	122	0	44	9	53	387
Peak Factor																	0.933
High Int. 05:30 PM					05:15 PM				05:15 PM				05:45 PM				
Volume	22	121	10	153	3	49	28	80	10	108	4	122	0	63	5	68	
Peak Factor	0.855				0.738				0.916				0.875				



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Counted by: ORGA-KD

Board : D4-1907

City/County: Washington, D.C.

Weather : Hot, Sunny, Dry

File Name : 6th@Sst

Site Code : 03341907

Start Date : 5/7/08

Page No : 1

Groups Printed - Passenger Vehicles - Trucks - Buses

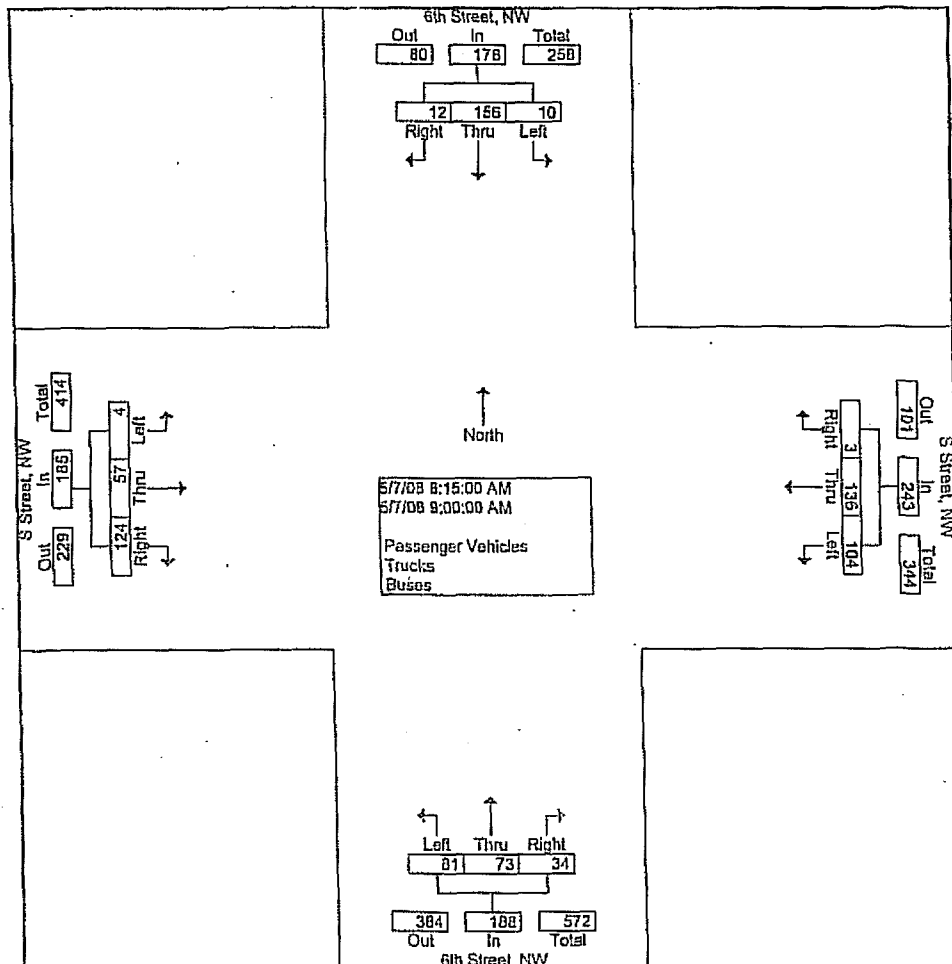
	6th Street, NW From North				S Street, NW From East				6th Street, NW From South				S Street, NW From West				Inl. Total
End Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:45 AM	0	22	2	24	11	25	0	36	14	14	9	37	1	11	26	38	135
08:00 AM	1	38	3	42	15	41	0	56	17	19	4	40	0	16	29	45	183
Total	1	60	5	66	26	66	0	92	31	33	13	77	1	27	55	83	318
08:15 AM	1	38	1	40	26	35	0	61	21	20	13	54	0	11	32	43	198
08:30 AM	1	41	1	43	19	27	2	48	20	17	7	44	2	15	27	44	179
08:45 AM	2	31	3	36	18	40	1	59	16	26	7	49	0	16	31	47	191
09:00 AM	6	46	7	59	41	34	0	75	24	10	7	41	2	15	34	51	226
Total	10	156	12	178	104	136	3	243	81	73	34	188	4	57	124	185	794
09:15 AM	3	33	4	40	21	36	1	58	26	16	10	52	1	10	22	33	183
09:30 AM	0	23	3	26	24	30	1	55	16	20	8	44	1	13	16	30	155
Total	3	56	7	66	45	66	2	113	42	36	18	96	2	23	38	63	338
04:15 PM	3	16	3	22	11	21	1	33	24	27	14	65	0	17	13	30	150
04:30 PM	1	24	1	26	17	22	0	39	23	27	30	80	1	29	17	47	192
04:45 PM	2	20	5	27	10	12	0	22	25	26	17	68	2	27	31	60	177
05:00 PM	1	25	3	29	17	25	0	42	28	21	16	65	1	33	23	57	193
Total	7	85	12	104	55	80	1	136	100	101	77	278	4	106	84	194	712
05:15 PM	2	18	2	22	14	19	1	34	23	25	23	71	2	37	35	74	201
05:30 PM	3	20	4	27	17	26	1	44	31	24	23	78	2	33	20	55	204
05:45 PM	7	31	2	40	14	19	0	33	23	24	24	71	2	32	31	65	209
06:00 PM	6	17	5	28	7	14	0	21	31	29	24	84	1	32	21	54	187
Total	18	86	13	117	52	78	2	132	108	102	94	304	7	134	107	248	801
Grand Total	39	443	49	531	262	426	8	716	362	345	236	943	18	347	408	773	2963
Approch %	7.3	83.4	9.2		39.4	59.5	1.1		38.4	36.6	25.0		2.3	44.9	52.8		
Total %	1.3	15.0	1.7	17.9	9.5	14.4	0.3	24.2	12.2	11.6	8.0	31.8	0.6	11.7	13.8	26.1	

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Counted by: ORGA-KD
 Board : D4-1907
 City/County: Washington, D.C.
 Weather : Hot, Sunny, Dry

File Name : 6th@Sst
 Site Code : 03341907
 Start Date : 5/7/08
 Page No : 2

	6th Street, NW From North				S Street, NW From East				6th Street, NW From South				S Street, NW From West				
End Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 07:45 AM to 11:45 AM - Peak 1 of 1																	
Intersection 08:15 AM																	
Volume	10	156	12	178	104	136	3	243	81	73	34	188	4	57	124	185	794
Percent	5.6	87.6	6.7		42.8	56.0	1.2		43.1	38.8	18.1		2.2	30.8	67.0		
09:00 Volume	6	46	7	59	41	34	0	75	24	10	7	41	2	15	34	51	226
Peak Factor																	0.878
High Int. 09:00 AM					09:00 AM				08:15 AM				09:00 AM				
Volume	6	46	7	59	41	34	0	75	21	20	13	54	2	15	34	51	
Peak Factor	0.754				0.810				0.870				0.907				



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Board : D4-1907

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Weather : Hot, Sunny, Dry

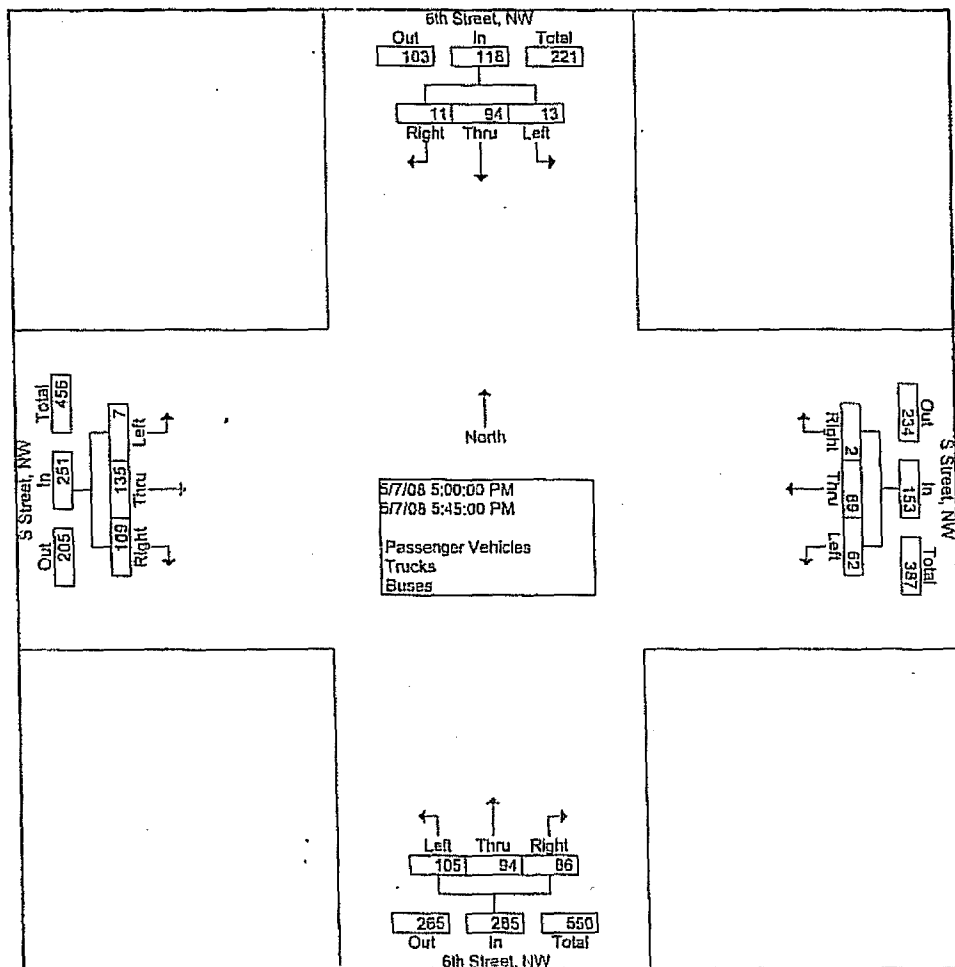
File Name : 6th@Sst

Site Code : 03341907

Start Date : 5/7/08

Page No : 3

	6th Street, NW From North				S Street, NW From East				6th Street, NW From South				S Street, NW From West				
End Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 12:00 PM to 05:00 PM - Peak 1 of 1																	
Intersection 05:00 PM																	
Volume	13	94	11	118	62	89	2	153	105	94	86	285	7	135	109	251	807
Percent	11.0	79.7	9.3		40.5	58.2	1.3		36.8	33.0	30.2		2.8	53.8	43.4		
05:45 Volume	7	31	2	40	14	19	0	33	23	24	24	71	2	32	31	65	209
Peak Factor																	0.965
High Int. 05:45 PM					05:30 PM				05:30 PM				05:15 PM				
Volume	7	31	2	40	17	26	1	44	31	24	23	78	2	37	35	74	
Peak Factor				0.738				0.869				0.913				0.848	



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Counted by: ORGA-GM,MT
Board : 1907,1576
City/County: Washington, DC
Weather : Warm, Sunny, Dry

File Name : RI@6TH
Site Code : 04361907
Start Date : 5/7/08
Page No : 1

Groups Printed- 1 - Passenger Vehicles

End Time	From North					From East					From South					From West					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
07:45 AM	5	54	2	0	61	28	300	2	1	331	0	40	23	0	63	5	122	0	1	128	583
08:00 AM	7	93	0	2	102	24	344	3	7	378	6	26	20	8	60	4	94	3	7	108	648
Total	12	147	2	2	163	52	644	5	8	709	6	66	43	8	123	9	216	3	8	236	1231
08:15 AM	1	100	5	0	106	34	383	2	1	420	0	48	21	7	76	6	117	2	8	133	735
08:30 AM	1	91	6	8	106	34	404	4	8	450	1	41	18	8	68	6	115	4	8	133	757
08:45 AM	8	80	9	0	97	57	374	3	11	445	3	40	13	10	66	6	116	3	5	130	738
09:00 AM	5	109	4	1	119	42	377	2	14	435	0	29	14	6	49	4	123	3	6	136	739
Total	15	380	24	9	428	167	1538	11	34	1750	4	158	66	31	259	22	471	12	27	532	2969
09:15 AM	4	79	8	1	92	47	363	6	7	423	0	48	23	4	75	6	93	1	6	106	696
09:30 AM	6	79	8	1	94	27	351	3	7	388	1	33	12	8	54	4	99	5	3	111	647
Total	10	158	16	2	186	74	714	9	14	811	1	81	35	12	129	10	192	6	9	217	1343
04:15 PM	3	44	4	3	54	37	185	3	6	231	2	54	39	4	99	6	293	2	8	309	693
04:30 PM	3	59	4	5	71	34	165	7	5	211	0	60	50	1	111	14	326	2	2	344	737
04:45 PM	12	48	2	3	65	36	212	6	1	255	0	54	58	0	112	11	300	2	9	322	754
05:00 PM	6	55	5	2	68	40	197	1	7	245	0	52	51	3	106	7	350	1	11	369	788
Total	24	206	15	13	258	147	759	17	19	942	2	220	198	8	428	38	1269	7	30	1344	2972
05:15 PM	11	65	1	6	83	42	159	0	3	204	1	59	56	1	117	7	353	0	7	367	771
05:30 PM	11	43	6	8	68	41	208	2	9	260	0	67	52	9	128	8	350	1	16	375	831
05:45 PM	10	57	4	1	72	54	155	1	3	213	0	55	51	6	112	13	345	0	4	362	759
06:00 PM	3	54	1	0	58	0	21	0	0	21	1	75	57	4	137	3	349	1	12	365	581
Total	35	219	12	15	281	137	543	3	15	698	2	256	216	20	494	31	1397	2	39	1469	2942
Grand Total	96	1110	69	41	1316	577	4198	45	90	4910	15	781	558	79	1433	110	3545	30	113	3798	11457
Apprch %	7.3	84.3	5.2	3.1		11.8	85.5	0.9	1.8		1.0	54.5	38.9	5.5		2.9	93.3	0.8	3.0		
Total %	0.8	9.7	0.6	0.4	11.5	5.0	36.6	0.4	0.8	42.9	0.1	6.8	4.9	0.7	12.5	1.0	30.9	0.3	1.0	33.2	

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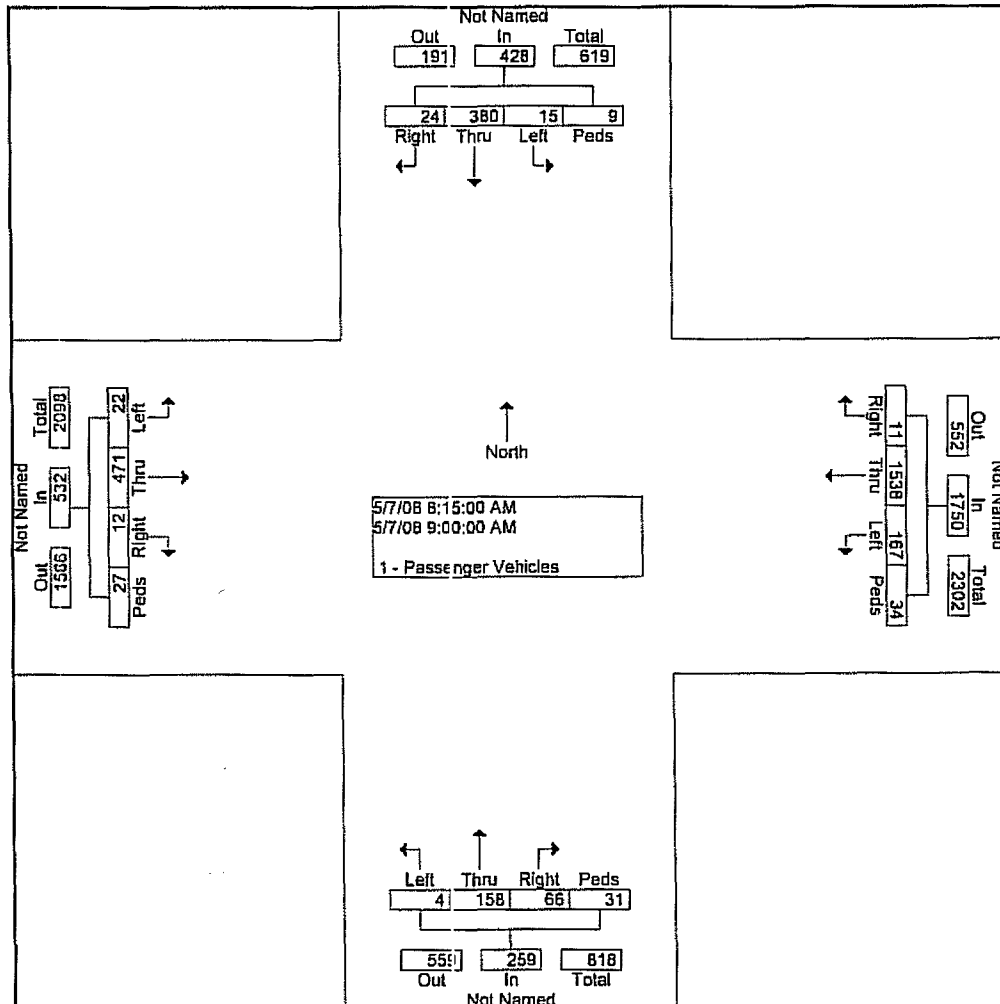
Lanham, MD 20706-2218

Tel: (301) 794-7700 Fax: (301) 794-4400

Counted by: ORGA-GM,MT
Board : 1907,1576
City/County: Washington, DC
Weather : Warm, Sunny, Dry

File Name : RI@6TH
Site Code : 04361907
Start Date : 5/7/08
Page No : 2

	From North					From East					From South					From West					
End Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour From 07:45 AM to 11:45 AM - Peak 1 of 1																					
Intersection	08:15 AM																				
Volume	15	380	24	9	428	167	1538	11	34	1750	4	158	66	31	259	22	471	12	27	532	2969
Percent	3.5	88.8	5.6	2.1		9.5	87.9	0.6	1.9		1.5	61.0	25.5	12.0		4.1	88.5	2.3	5.1		
08:30																					
Volume	1	91	6	8	106	34	404	4	8	450	1	41	18	8	68	6	115	4	8	133	757
Peak Factor																					0.981
High Int.	09:00 AM					08:30 AM					08:15 AM					09:00 AM					
Volume	5	109	4	1	119	34	404	4	8	450	0	48	21	7	76	4	123	3	6	136	
Peak Factor	0.899					0.972					0.852					0.978					



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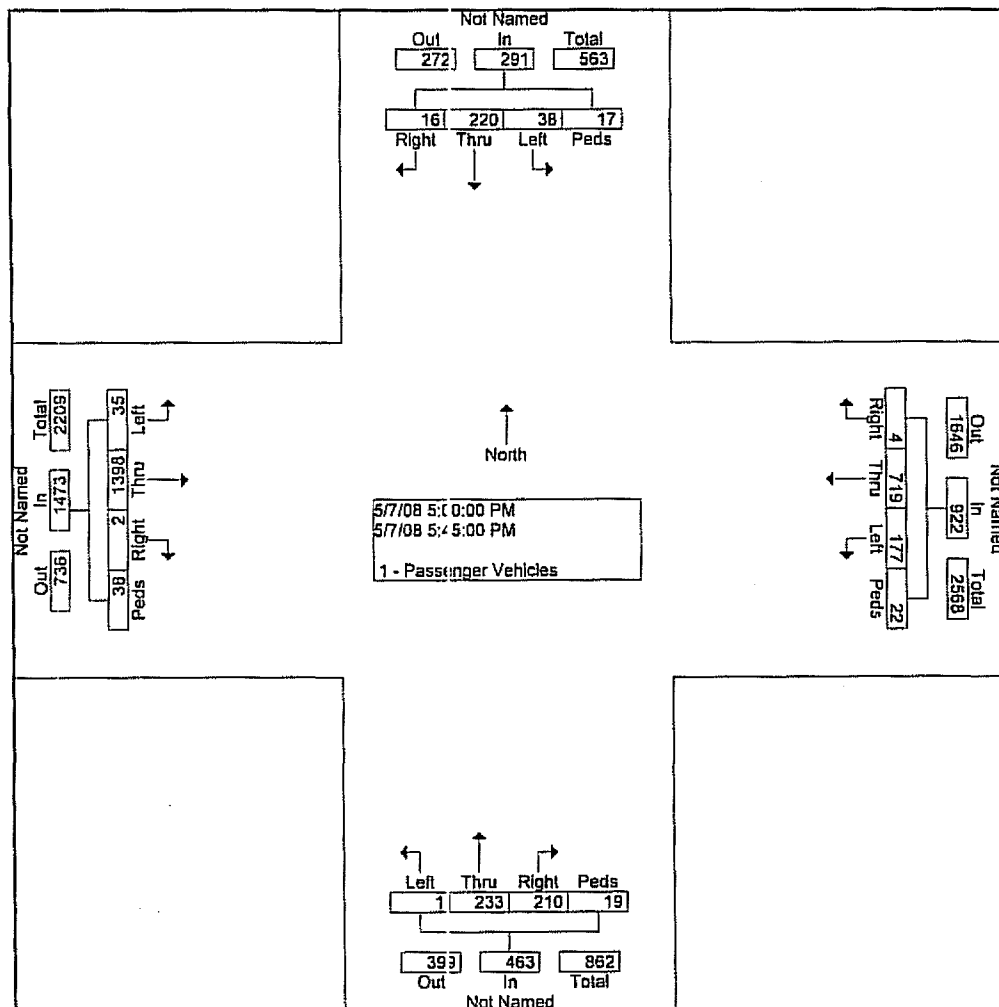
Lanham, MD 20706-2218

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Board : 1907,1576
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File Name : RI@6TH
Site Code : 04361907
Start Date : 5/7/08
Page No : 3

	From North					From East					From South					From West					
End Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour From 12:00 PM to 06:00 PM - Peak 1 of 1																					
Intersection 05:00 PM																					
Volume	38	220	16	17	291	177	719	4	22	922	1	233	210	19	463	35	1398	2	38	1473	3149
Percent	13.1	75.6	5.5	5.8		19.2	78.0	0.4	2.4		0.2	50.3	45.4	4.1		2.4	94.9	0.1	2.6		
05:30 Volume	11	43	6	8	68	41	208	2	9	260	0	67	52	9	128	8	350	1	16	375	831
Peak Factor																					0.947
High Int. 05:15 PM						05:30 PM					05:30 PM					05:30 PM					
Volume	11	65	1	6	83	41	208	2	9	260	0	67	52	9	128	8	350	1	16	375	
Peak Factor	0.877					0.887					0.904					0.982					



APPENDIX

B

Capacity Analysis Worksheets –
Existing Traffic Situation (2008)

SHORT REPORT

General Information						Site Information					
Analyst	NSKB					Intersection	7th Street @ R.I Ave				
Agency or Co.	ORGA					Area Type	All other areas				
Date Performed	07/15/2008					Jurisdiction					
Time Period	AM Peak					Analysis Year	2008				

Volume and Timing Input														
			EB			WB			NB			SB		
			LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Num. of Lanes			0	3	0	1	3	0	0	2	0	0	2	0
Lane group				TR		L	TR			LTR			LTR	
Volume (vph)				429	40	150	1521	5	27	221	25	51	415	46
% Heavy veh				3	3	3	3	3	3	3	3	3	3	3
PHF				0.91	0.91	0.91	0.91	0.91	0.93	0.93	0.93	0.93	0.93	0.93
Actuated (P/A)				P	P	P	P	P	P	P	P	P	P	P
Startup lost time				2.0		2.0	2.0			2.0			2.0	
Ext. eff. green				2.0		2.0	2.0			2.0			2.0	
Arrival type				5		5	5			5			5	
Unit Extension				3.0		3.0	3.0			3.0			3.0	
Ped/Bike/RTOR Volume			93	12	0	56	38	0	131	10	0	156	34	0
Lane Width				11.0		11.0	11.0			12.0			12.0	
Parking/Grade/Parking			N	0	Y	N	0	N	N	0	Y	N	0	N
Parking/hr					8						8			
Bus stops/hr				4		0	4			4			0	
Unit Extension				3.0		3.0	3.0			3.0			3.0	
Phasing	EW Perm	02	03			04		NS Perm	06		07		08	
Timing	G = 50.0	G =	G =			G =		G = 38.0	G =		G =		G =	
	Y = 6	Y =	Y =			Y =		Y = 6	Y =		Y =		Y =	
Duration of Analysis (hrs) = 0.25										Cycle Length C = 100.0				

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adj. flow rate		515		165	1676			294			550	
Lane group cap.		2260		392	2414			1033			1280	
v/c ratio		0.23		0.42	0.69			0.28			0.43	
Green ratio		0.50		0.50	0.50			0.38			0.38	
Unif. delay d1		14.1		15.8	19.1			21.6			23.0	
Delay factor k		0.50		0.50	0.50			0.50			0.50	
Increm. delay d2		0.2		3.3	1.7			0.7			1.1	
PF factor		0.333		0.333	0.333			0.591			0.591	
Control delay		4.9		8.6	8.1			13.4			14.6	
Lane group LOS		A		A	A			B			B	
Apprch. delay		4.9		8.1			13.4			14.6		
Approach LOS		A		A			B			B		
Intersec. delay		9.2		Intersection LOS							A	

SHORT REPORT												
General Information						Site Information						
Analyst		NSKB				Intersection		7th Street @ R.I Ave				
Agency or Co.		ORGA				Area Type		All other areas				
Date Performed		07/15/2008				Jurisdiction						
Time Period		PM Peak				Analysis Year		2008				
Volume and Timing Input												
	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Num. of Lanes	0	3	0	1	3	0	0	2	0	0	2	0
Lane group		TR		L	TR			LTR			LTR	
Volume (vph)		1292	29	69	715	6	37	306	94	49	402	44
% Heavy veh		3	0	0	3	0	3	3	3	3	3	3
PHF		0.76	0.76	0.90	0.90	0.90	0.75	0.75	0.75	0.83	0.83	0.83
Actuated (P/A)		P	P	P	P	P	P	P	P	P	P	P
Startup lost time		2.0		2.0	2.0			2.0			2.0	
Ext. eff. green		2.0		2.0	2.0			2.0			2.0	
Arrival type		5		5	5			5			5	
Unit Extension		3.0		3.0	3.0			3.0			3.0	
Ped/Bike/RTOR Volume	71	12	0	47	38	0	67	10	0	143	34	0
Lane Width		11.0		11.0	11.0			12.0			12.0	
Parking/Grade/Parking	N	0	Y	N	0	N	N	0	Y	N	0	N
Parking/hr			8						8			
Bus stops/hr		4		0	4			4			0	
Unit Extension		3.0		3.0	3.0			3.0			3.0	
Phasing	EW Perm	02	03	04	NS Perm	06	07	08				
Timing	G = 50.0	G =	G =	G =	G = 38.0	G =	G =	G =				
	Y = 6	Y =	Y =	Y =	Y = 6	Y =	Y =	Y =				
Duration of Analysis (hrs) = 0.25						Cycle Length C = 100.0						
Lane Group Capacity, Control Delay, and LOS Determination												
	EB			WB			NB			SB		
Adj. flow rate		1738		77	801			582			596	
Lane group cap.		2294		95	2412			990			1287	
v/c ratio		0.76		0.81	0.33			0.59			0.46	
Green ratio		0.50		0.50	0.50			0.38			0.38	
Unif. delay d1		20.1		21.0	15.0			24.7			23.3	
Delay factor k		0.50		0.50	0.50			0.50			0.50	
Increm. delay d2		2.4		50.8	0.4			2.6			1.2	
PF factor		0.333		0.333	0.333			0.591			0.591	
Control delay		9.1		57.8	5.4			17.2			15.0	
Lane group LOS		A		E	A			B			B	
Approch. delay		9.1		10.0				17.2			15.0	
Approach LOS		A		A				B			B	
Intersec. delay		11.5		Intersection LOS							B	

SHORT REPORT													
General Information						Site Information							
Analyst	NSKB					Intersection	7th Street @ R St						
Agency or Co.	ORGA					Area Type	All other areas						
Date Performed	07/15/2008					Jurisdiction							
Time Period	AM Peak					Analysis Year	2008						
Volume and Timing Input													
	EB			WB			NB			SB			
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	
Num. of Lanes	0	0	0	0	1	1	0	2	0	0	2	0	
Lane group					T	R		LT			TR		
Volume (vph)					386	42	37	248			493	14	
% Heavy veh					3	3	3	3			3	3	
PHF					0.91	0.91	0.93	0.93			0.93	0.93	
Actuated (P/A)					P	P	P	P			P	P	
Startup lost time					2.0	2.0		2.0			2.0		
Ext. eff. green					2.0	2.0		2.0			2.0		
Arrival type					5	5		5			5		
Unit Extension					3.0	3.0		3.0			3.0		
Ped/Bike/RTOR Volume				56	42	0				156	34	0	
Lane Width					11.0	12.0		10.0			10.0		
Parking/Grade/Parking	N		N	N	0	N	N	0	N	N	0	Y	
Parking/hr												8	
Bus stops/hr					0	0		0			4		
Unit Extension					3.0	3.0		3.0			3.0		
Phasing	WB Only	02	03	04	NS Perm	06	07	08					
Timing	G = 48.0	G =	G =	G =	G = 40.0	G =	G =	G =					
	Y = 6	Y =	Y =	Y =	Y = 6	Y =	Y =	Y =					
Duration of Analysis (hrs) = 0.25						Cycle Length C = 100.0							
Lane Group Capacity, Control Delay, and LOS Determination													
	EB			WB			NB			SB			
Adj. flow rate				424	46		307			545			
Lane group cap.				856	704		1076			1187			
v/c ratio				0.50	0.07		0.29			0.46			
Green ratio				0.48	0.48		0.40			0.40			
Unif. delay d1				17.7	14.0		20.3			22.0			
Delay factor k				0.50	0.50		0.50			0.50			
Increm. delay d2				2.0	0.2		0.7			1.3			
PF factor				0.385	0.385		0.556			0.556			
Control delay				8.9	5.5		12.0			13.5			
Lane group LOS				A	A		B			B			
Approch. delay				3.5			12.0			13.5			
Approach LOS				A			B			B			
Intersec. delay	11.4			Intersection LOS						B			

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SHORT REPORT												
General Information						Site Information						
Analyst	NSKB					Intersection	7th Street @ R St					
Agency or Co.	ORGA					Area Type	All other areas					
Date Performed	07/15/2008					Jurisdiction						
Time Period	PM Peak					Analysis Year	2008					
Volume and Timing Input												
	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Num. of Lanes	0	0	0	0	1	1	0	2	0	0	2	0
Lane group					T	R		LT			TR	
Volume (vph)					505	27	42	340			495	18
% Heavy veh					3	3	3	3			3	3
PHF					0.76	0.76	0.75	0.75			0.83	0.83
Actuated (P/A)					P	P	P	P			P	P
Startup lost time					2.0	2.0		2.0			2.0	
Ext. eff. green					2.0	2.0		2.0			2.0	
Arrival type					5	5		5			5	
Unit Extension					3.0	3.0		3.0			3.0	
Ped/Bike/RTOR Volume				47	42	0				143	34	0
Lane Width					11.0	12.0		10.0			10.0	
Parking/Grade/Parking	N		N	N	0	N	N	0	N	N	0	Y
Parking/hr												8
Bus stops/hr					0	0		0			4	
Unit Extension					3.0	3.0		3.0			3.0	
Phasing	WB Only	02	03	04	NS Perm	06	07	08				
Timing	G = 48.0	G =	G =	G =	G = 40.0	G =	G =	G =				
	Y = 6	Y =	Y =	Y =	Y = 6	Y =	Y =	Y =				
Duration of Analysis (hrs) = 0.25				Cycle Length C = 100.0								
Lane Group Capacity, Control Delay, and LOS Determination												
	EB			WB			NB			SB		
Adj. flow rate				664	36		509			618		
Lane group cap.				856	708		1057			1184		
v/c ratio				0.78	0.05		0.48			0.52		
Green ratio				0.48	0.48		0.40			0.40		
Unif. delay d1				21.5	13.9		22.3			22.7		
Delay factor k				0.50	0.50		0.50			0.50		
Increm. delay d2				6.8	0.1		1.6			1.6		
PF factor				0.385	0.385		0.556			0.556		
Control delay				15.1	5.5		14.0			14.3		
Lane group LOS				B	A		B			B		
Approch. delay				14.6			14.0			14.3		
Approach LOS				B			B			B		
Intersec. delay	14.3			Intersection LOS						B		

SHORT REPORT													
General Information							Site Information						
Analyst	NSKB						Intersection	7th Street @ SStreet					
Agency or Co.	ORGA						Area Type	All other areas					
Date Performed	07/15/2008						Jurisdiction						
Time Period	AM Peak						Analysis Year	2008					
Volume and Timing Input													
	EB			WB			NB			SB			
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	
Num. of Lanes	0	1	0	0	1	0	0	2	0	0	2	0	
Lane group		LTR			LTR			LTR			LTR		
Volume (vph)	4	99	20	17	178	28	31	268	15	96	525	53	
% Heavy veh	0	3	0	0	3	0	5	5	5	5	5	5	
PHF	0.73	0.73	0.73	0.75	0.76	0.76	0.91	0.91	0.91	0.92	0.92	0.92	
Actuated (P/A)	P	P	P	P	P	P	P	P	P	P	P	P	
Startup lost time		2.0			2.0			2.0			2.0		
Ext. eff. green		2.0			2.0			2.0			2.0		
Arrival type		5			5			5			5		
Unit Extension		3.0			3.0			3.0			3.0		
Ped/Bike/RTOR Volume	41	0	0	17	0	0	72	0	0	68	0	0	
Lane Width		9.0			9.0			10.0			10.0		
Parking/Grade/Parking	N	0	Y	N	0	Y	N	0	Y	N	0	Y	
Parking/hr			8			8			8			8	
Bus stops/hr		0			0			5			5		
Unit Extension		3.0			3.0			3.0			3.0		
Phasing	EW Perm	02	03	04	NS Perm	06	07	08					
Timing	G = 24.0	G =	G =	G =	G = 64.0	G =	G =	G =					
	Y = 6	Y =	Y =	Y =	Y = 6	Y =	Y =	Y =					
Duration of Analysis (hrs) = 0.25							Cycle Length C = 100.0						
Lane Group Capacity, Control Delay, and LOS Determination													
	EB			WB			NB			SB			
Adj. flow rate		168			292			344			736		
Lane group cap.		330			326			1577			1841		
v/c ratio		0.51			0.90			0.22			0.40		
Green ratio		0.24			0.24			0.64			0.64		
Unif. delay d1		32.9			36.8			7.5			8.7		
Delay factor k		0.50			0.50			0.50			0.50		
Increm. delay d2		5.5			29.2			0.3			0.6		
PF factor		0.789			0.789			0.139			0.139		
Control delay		31.5			58.3			1.4			1.9		
Lane group LOS		C			E			A			A		
Apprch. delay		31.5			58.3			1.4			1.9		
Approach LOS		C			E			A			A		
Intersec. delay		15.7			Intersection LOS							B	

SHORT REPORT													
General Information						Site Information							
Analyst	NSKB					Intersection	7th Street @ SStreet						
Agency or Co.	ORGA					Area Type	All other areas						
Date Performed	07/15/2008					Jurisdiction							
Time Period	PM Peak					Analysis Year	2008						
Volume and Timing Input													
	EB			WB			NB			SB			
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	
Num. of Lanes	0	1	0	0	1	0	0	2	0	0	2	0	
Lane group	LTR			LTR			LTR			LTR			
Volume (vph)	3	199	36	10	163	63	31	399	17	65	422	36	
% Heavy veh	0	3	0	0	3	0	5	5	5	5	5	5	
PHF	0.88	0.88	0.88	0.74	0.74	0.74	0.92	0.92	0.92	0.86	0.86	0.86	
Actuated (P/A)	P	P	P	P	P	P	P	P	P	P	P	P	
Startup lost time		2.0			2.0			2.0			2.0		
Ext. eff. green		2.0			2.0			2.0			2.0		
Arrival type		5			5			5			5		
Unit Extension		3.0			3.0			3.0			3.0		
Ped/Bike/RTOR Volume	42	0	0	74	0	0	50	0	0	87	0	0	
Lane Width		9.0			9.0			10.0			10.0		
Parking/Grade/Parking	N	0	Y	N	0	Y	N	0	Y	N	0	Y	
Parking/hr			8			8			8			8	
Bus stops/hr		0			0			5			5		
Unit Extension		3.0			3.0			3.0			3.0		
Phasing	EW Perm	02	03	04	NS Perm	06	07	08					
Timing	G = 24.0	G =	G =	G =	G = 64.0	G =	G =	G =					
	Y = 6	Y =	Y =	Y =	Y = 6	Y =	Y =	Y =					
Duration of Analysis (hrs) = 0.25						Cycle Length C = 100.0							
Lane Group Capacity, Control Delay, and LOS Determination													
	EB			WB			NB			SB			
Adj. flow rate	271			320			489			612			
Lane group cap.	333			318			1652			1847			
v/c ratio	0.81			1.01			0.30			0.33			
Green ratio	0.24			0.24			0.64			0.64			
Unif. delay d1	35.9			38.0			8.0			8.2			
Delay factor k	0.50			0.50			0.50			0.50			
Increm. delay d2	19.2			52.1			0.5			0.5			
PF factor	0.789			0.789			0.139			0.139			
Control delay	47.6			82.1			1.6			1.6			
Lane group LOS	D			F			A			A			
Apprch. delay	47.6			32.1			1.6			1.6			
Approach LOS	D			F			A			A			
Intersec. delay	24.2			Intersection LOS						C			

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SHORT REPORT												
General Information						Site Information						
Analyst NSKB Agency or Co. ORGA Date Performed 07/15/2008 Time Period AM Peak						Intersection 6h Street @ S Street Area Type All other areas Jurisdiction Analysis Year 2008						
Volume and Timing Input												
	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Num. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Lane group		LTR			LTR			LTR			LTR	
Volume (vph)	4	57	124	104	136	3	81	73	34	10	156	12
% Heavy veh	3	3	3	3	3	3	3	3	3	3	3	3
PHF	0.91	0.91	0.91	0.81	0.81	0.81	0.87	0.87	0.87	0.75	0.75	0.75
Actuated (P/A)	P	P	P	P	P	P	P	P	P	P	P	P
Startup lost time		2.0			2.0			2.0				
Ext. eff. green		2.0			2.0			2.0			2.0	
Arrival type		5			5			5			5	
Unit Extension		3.0			3.0			3.0			3.0	
Ped/Bike/RTOR Volume	13	0	0	31	0	0	3	0	0	20	0	0
Lane Width		9.0			15.0			15.0			15.0	
Parking/Grade/Parking	N	0	Y	N	0	Y	N	0	Y	N	0	Y
Parking/hr			8			8			8			8
Bus stops/hr		0			0			0			0	
Unit Extension		3.0			3.0			3.0			3.0	
Phasing	EW Perm	02	03	04	NS Perm	06	07	08				
Timing	G = 58.0	G =	G =	G =	G = 32.0	G =	G =	G =				
	Y = 5	Y =	Y =	Y =	Y = 5	Y =	Y =	Y =				
Duration of Analysis (hrs) = 0.25			Cycle Length C = 100.0									
Lane Group Capacity, Control Delay, and LOS Determination												
	EB			WB			NB			SB		
Adj. flow rate		203			300			216			237	
Lane group cap.		744			788			421			582	
v/c ratio		0.27			0.38			0.51			0.41	
Green ratio		0.58			0.58			0.32			0.34	
Unif. delay d1		10.5			11.3			27.7			25.3	
Delay factor k		0.50			0.50			0.50			0.50	
Increm. delay d2		0.9			1.4			4.4			2.1	
PF factor		0.119			0.119			0.686			0.657	
Control delay		2.2			2.7			23.4			18.7	
Lane group LOS		A			A			C			B	
Apprch. delay		2.2			2.7			23.4			18.7	
Approach LOS		A			A			C			B	
Intersec. delay		11.2		Intersection LOS							B	

SHORT REPORT

General Information

Analyst *NSKB*
 Agency or Co. *ORGA*
 Date Performed *07/15/2008*
 Time Period *PM Peak*

Site Information

Intersection *6h Street @ S Street*
 Area Type *All other areas*
 Jurisdiction
 Analysis Year *2008*

Volume and Timing Input

			EB			WB			NB			SB			
			LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	
Num. of Lanes			0	1	0	0	1	0	0	1	0	0	1	0	
Lane group				LTR			LTR			LTR			LTR		
Volume (vph)			7	135	109	62	89	2	105	94	86	13	94	11	
% Heavy veh			3	3	3	3	3	3	3	3	3	3	3	3	
PHF			0.85	0.85	0.85	0.87	0.87	0.87	0.91	0.91	0.91	0.74	0.74	0.74	
Actuated (P/A)			P	P	P	P	P	P	P	P	P	P	P	P	
Startup lost time				2.0			2.0			2.0			2.0		
Ext. eff. green				2.0			2.0			2.0			2.0		
Arrival type				5			5			5			5		
Unit Extension				3.0			3.0			3.0			3.0		
Ped/Bike/RTOR Volume			17	0	0	43	0	0	6	0	0	15	0	0	
Lane Width				9.0			15.0			15.0			15.0		
Parking/Grade/Parking			N	0	Y	N	0	Y	N	0	Y	N	0	Y	
Parking/hr					8			8			8			8	
Bus stops/hr				0			0			0			0		
Unit Extension				3.0			3.0			3.0			3.0		
Phasing	EW Perm	02	03			04		NS Perm	06		07		08		
Timing	G = 58.0	G =	G =			G =		G = 32.0	G =		G =		G =		
	Y = 5	Y =	Y =			Y =		Y = 5	Y =		Y =		Y =		
Duration of Analysis (hrs) = 0.25										Cycle Length C = 100.0					

Lane Group Capacity, Control Delay, and LOS Determination

	EB		WB		NB		SB	
Adj. flow rate	296		175		312		160	
Lane group cap.	769		791		436		545	
v/c ratio	0.38		0.22		0.72		0.29	
Green ratio	0.58		0.58		0.32		0.32	
Unif. delay d1	11.4		10.1		30.0		25.5	
Delay factor k	0.50		0.50		0.50		0.50	
Incram. delay d2	1.5		0.6		9.7		1.4	
PF factor	0.119		0.119		0.686		0.686	
Control delay	2.8		1.8		30.2		18.9	
Lane group LOS	A		A		C		B	
Apprch. delay	2.8		1.8		30.2		18.9	
Approach LOS	A		A		C		B	
Intersec. delay	14.4		Intersection LOS				B	

SHORT REPORT												
General Information						Site Information						
Analyst	NSKB					Intersection	6h Street @ Rhode Island Ave					
Agency or Co.	ORGA					Area Type	All other areas					
Date Performed	08/19/2008					Jurisdiction						
Time Period	AM Peak					Analysis Year	2008					
Volume and Timing Input												
	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Num. of Lanes	1	3	0	1	3	0	0	2	1	0	1	0
Lane group	L	TR		L	TR			TR	R		LTR	
Volume (vph)	23	506	12	174	1625	11		161	69	16	383	25
% Heavy veh	2	2	2	1	1	1		2	2	1	1	1
PHF	0.97	0.97	0.97	0.98	0.98	0.98		0.84	0.84	0.89	0.89	0.89
Actuated (P/A)	P	P	P	P	P	P		P	P	P	P	P
Startup lost time	2.0	2.0		2.0	2.0			2.0	2.0			
Ext. eff. green	2.0	2.0		2.0	2.0			2.0	2.0		2.0	
Arrival type	5	5		5	5			5	5		5	
Unit Extension	3.0	3.0		3.0	3.0			3.0	3.0		3.0	
Ped/Bike/RTOR Volume	42	0	0	9	0	0	33	0	0	39	0	0
Lane Width	15.0	10.0		11.0	11.0			10.0	16.0		15.0	
Parking/Grade/Parking	N	0	N	N	0	Y	N	0	N	N	0	Y
Parking/hr						8						8
Bus stops/hr	0	2		2	0			0	0		0	
Unit Extension	3.0	3.0		3.0	3.0			3.0	3.0		3.0	
Phasing	WB Only	Thru & RT	EB Only	04	NS Perm	06	07	08				
Timing	G = 9.0	G = 25.0	G = 20.0	G =	G = 30.0	G =	G =	G =				
	Y = 4	Y = 4	Y = 4	Y =	Y = 4	Y =	Y =	Y =				
Duration of Analysis (hrs) = 0.25						Cycle Length C = 100.0						
Lane Group Capacity, Control Delay, and LOS Determination												
	EB			WB			NB			SB		
Adj. flow rate	24	534		178	1669			192	82		476	
Lane group cap.	389	2223		154	1792			993	521		559	
v/c ratio	0.06	0.24		1.16	0.93			0.19	0.16		0.85	
Green ratio	0.20	0.49		0.09	0.38			0.30	0.30		0.32	
Unif. delay d1	32.4	14.7		45.5	29.7			26.0	25.7		31.8	
Delay factor k	0.50	0.50		0.50	0.50			0.50	0.50		0.50	
Increm. delay d2	0.3	0.3		120.6	10.2			0.4	0.6		15.1	
PF factor	0.833	0.359		0.934	0.591			0.714	0.714		0.686	
Control delay	27.3	5.6		163.1	27.8			19.0	19.0		36.9	
Lane group LOS	C	A		F	C			B	B		D	
Apprch. delay	6.5			40.9			19.0			36.9		
Approach LOS	A			D			B			D		
Intersec. delay	32.3			Intersection LOS						C		

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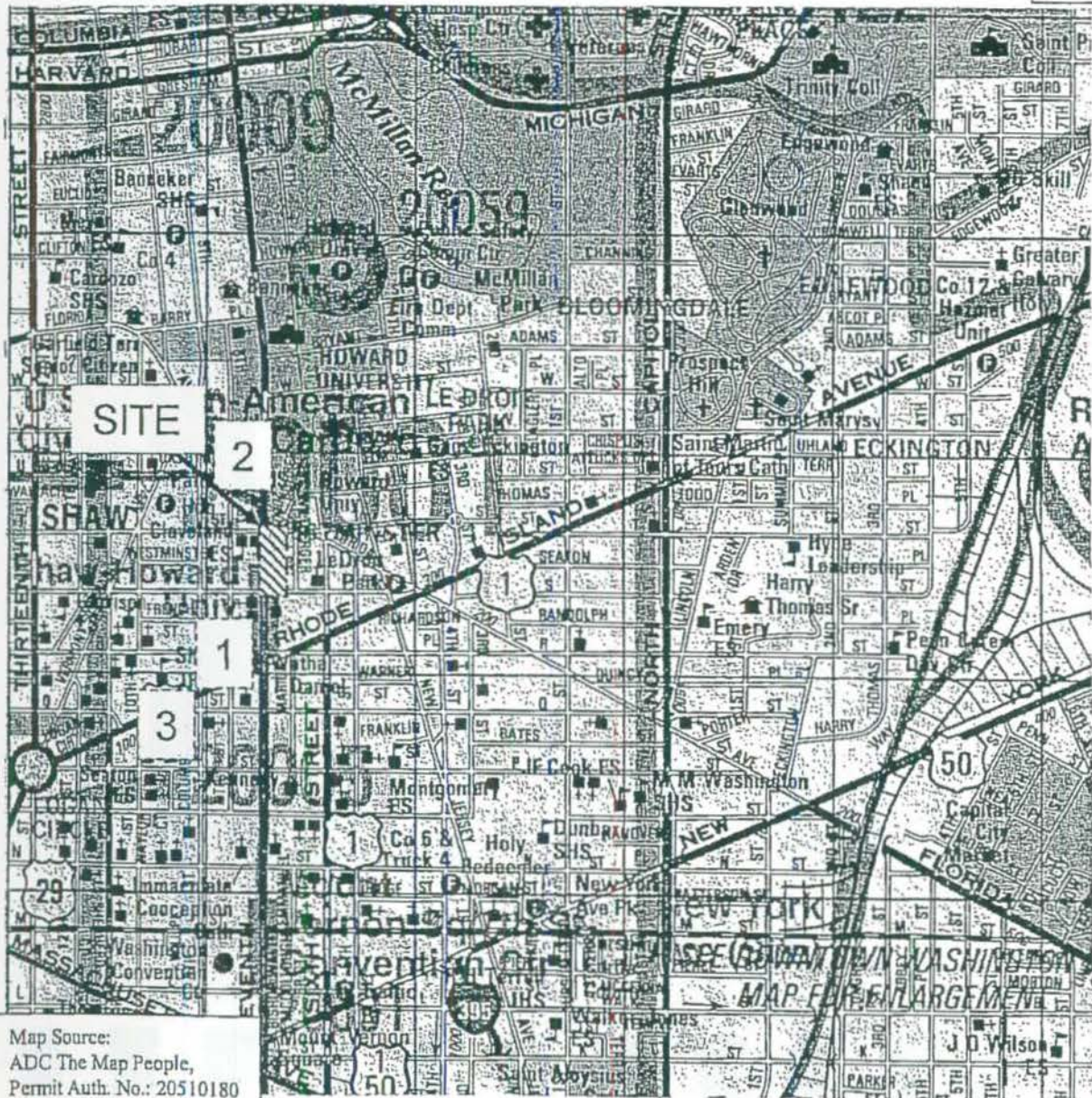
SHORT REPORT												
General Information						Site Information						
Analyst Agency or Co. Date Performed Time Period						Intersection Area Type Jurisdiction Analysis Year						
NSKB ORGA 08/19/2008 PM Peak						6h Street @ Rhode Island Ave All other areas 2008						
Volume and Timing Input												
	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Num. of Lanes	1	3	0	1	3	0	0	2	1	0	1	0
Lane group	L	TR		L	TR			TR	R		LTR	
Volume (vph)	34	1392	6	166	800	9		236	220	41	216	14
% Heavy veh	1	1	1	1	1	1		2	2	1	1	1
PHF	0.97	0.97	0.97	0.93	0.93	0.93		0.94	0.94	0.88	0.88	0.88
Actuated (P/A)	P	P	P	P	P	P		P	P	P	P	P
Startup lost time	2.0	2.0		2.0	2.0			2.0	2.0			
Ext. eff. green	2.0	2.0		2.0	2.0			2.0	2.0		2.0	
Arrival type	5	5		5	5			5	5		5	
Unit Extension	3.0	3.0		3.0	3.0			3.0	3.0		3.0	
Ped/Bike/RTOR Volume	20	0	0	19	0	0	50	0	0	20	0	0
Lane Width	15.0	10.0		11.0	11.0			10.0	16.0		15.0	
Parking/Grade/Parking	N	0	N	N	0	Y	N	0	N	N	0	Y
Parking/hr						8						8
Bus stops/hr	0	2		2	0			0	0		0	
Unit Extension	3.0	3.0		3.0	3.0			3.0	3.0		3.0	
Phasing	WB Only	Thru & RT	EB Only	04	NS Perm	06	07	08				
Timing	G = 9.0	G = 25.0	G = 20.0	G =	G = 30.0	G =	G =	G =				
	Y = 4	Y = 4	Y = 4	Y =	Y = 4	Y =	Y =	Y =				
Duration of Analysis (hrs) = 0.25						Cycle Length C = 100.0						
Lane Group Capacity, Control Delay, and LOS Determination												
	EB			WB			NB			SB		
Adj. flow rate	35	1441		178	870			251	234		308	
Lane group cap.	393	2253		154	1791			993	512		557	
v/c ratio	0.09	0.64		1.16	0.49			0.25	0.46		0.55	
Green ratio	0.20	0.49		0.09	0.38			0.30	0.30		0.32	
Unif. delay d1	32.6	18.9		45.5	23.6			26.5	28.4		28.1	
Delay factor k	0.50	0.50		0.50	0.50			0.50	0.50		0.50	
Increm. delay d2	0.4	1.4		120.6	0.9			0.6	2.9		3.9	
PF factor	0.833	0.359		0.934	0.591			0.714	0.714		0.686	
Control delay	27.6	8.2		163.1	14.9			19.5	23.2		23.2	
Lane group LOS	C	A		F	B			B	C		C	
Apprch. delay	8.7			40.1			21.3			23.2		
Approach LOS	A			D			C			C		
Intersec. delay	21.8			Intersection LOS						C		

APPENDIX

C

Background Development Trip Generation -
Broadcast Radio One and Other Approved Developments

1. Shaw Library
2. Atlantic Condos
3. Phyllis Wheatley Condos



Kimley-Horn
and Associates, Inc.

KHA Project # 110081000

Approved and Unbuilt
Development Location Map
Broadcast Center One
Washington, DC

Figure
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Table 1
Trip Generation Rates
Approved and Unbuilt Developments

Land Use	AM Peak Hour			PM Peak Hour		
	In	Out	Total	In	Out	Total
1. Shaw Library – per 1,000 SF (15,000 SF)	0.20	0.07	0.27	0.88	0.87	1.75
2. Atlantic Condos – per dwelling unit (620 units)	0.02	0.12	0.14	0.12	0.06	0.18
3. Phyllis Wheatley Condos – per dwelling unit (117 units)	0.03	0.17	0.20	0.15	0.08	0.23

Trip rates per thousand square feet adjusted to reflect 75% non-driver mode share for Shaw Library.

Trip rates per residential unit adjusted to reflect 60% non-driver mode share for Atlantic Condos.

Trip rates per residential unit adjusted to reflect 60% non-driver mode share for Phyllis Wheatley Condos.

Table 2
Peak Hour Trips
Approved and Unbuilt Developments

Land Use	AM Peak Hour			PM Peak Hour		
	In	Out	Total	In	Out	Total
1. Shaw Library – 15,000 SF	3	1	4	13	13	26
2. Atlantic Condos – 620 residential units	15	74	89	72	36	108
3. Phyllis Wheatley Condos – 117 residential units	4	20	24	18	9	27
Total	22	95	117	103	58	161

Site Generated Traffic Volumes

Peak hour traffic volumes generated by the proposed development were calculated using the trip generation equations for Land Use Codes 230 (residential condominium/townhouse), 814 (specialty retail center) and 710 (general office building) contained in the ITE Trip Generation Report. The resulting trip generation rates for each land use, which includes reduction for non-driver trips similar to the calculations for the approved and unbuilt developments, are shown in Table 4.

Table 4 Trip Generation Rates Broadcast Center One Development						
Land Use	AM Peak Hour			PM Peak Hour		
	In	Out	Total	In	Out	Total
180 Residential Units	0.03	0.15	0.19	0.14	0.07	0.21
24,323 SF Retail	0.21	0.21	0.42	0.74	0.90	1.64
103,083 SF Office	0.81	0.12	0.93	0.16	0.78	0.94

Trip rates per residential unit adjusted to reflect 60% non-driver mode share for Residential.
 Trip rates per thousand square feet adjusted to reflect 50% non-driver mode share for Retail.
 Trip rates per thousand square feet adjusted to reflect 50% non-driver mode share for Office.

The estimated traffic generated by the Broadcast Center is summarized in Table 5.

Table 5 Peak Hour Trips Broadcast Center One Development						
Land Use	AM Peak Hour			PM Peak Hour		
	In	Out	Total	In	Out	Total
180 Residential Units	6	28	34	26	13	39
24,323 SF Retail	5	5	10	18	22	40
103,083 SF Office	84	12	96	17	80	97
Total	95	45	140	61	115	176